Manufacturing

QAD Manufacturing provides tools for planning, scheduling, cost management, material control, shop floor control, and reporting in a variety of manufacturing environments.

Engineering

Engineering provides a tool set for defining key manufacturing setup data, including:

- Product structures: Bills of material used during MRP and other planning activities to determine what materials are required for manufacturing.
- Production lines: Physical arrangements of work centers that can perform a sequence of manufacturing and processing operations.
- Routings: Sequences of production operations required to manufacture items.

Engineering Control

Product Change Control Panel

Auto Number

Select the checkbox to generate document numbers automatically when a new PCR or PCO is created. The system uses the Prefix and Next PCR/PCO fields in Engineering Control to determine the number.

Clear the checkbox to enter numbers manually when creating PCRs or PCOs.

Security

This field determines if additional security validation is used during PCO approval.

If selected, users are prompted to enter their password during PCO approval.

If not selected, no password is required during PCO approval. You should select the Security checkbox if you require any security in your PCO functionality. If you are not using security, any user with access to PCR/PCO Approval can supply any user ID and approve PCOs. With Security, they must also know the user's password in order to complete approvals.

Enforce PCO Approval Group Sequencing

Specify whether the system lets you complete approval of a PCR or PCO even if it has not yet been approved by a member of a group with a lower sequence number. Approval sequences are assigned to groups in Routing Slips.

If you unselect the checkbox, the system displays a warning message if approvals are attempted out of sequence. You can ignore the warning and complete the approval.

If you select the checkbox, the system displays an error message if you attempt to approve a PCR or PCO out of sequence. You cannot complete the current approval. This field also controls whether a group member can update the Approved field on a PCR or PCO if it has already been approved by a member of a group with a higher approval sequence. When the field is enabled, the system displays an error.

This field also controls whether a group member can update the Approved field on a PCR or PCO if it has already been approved by a member of a group with a higher approval sequence. When the checkbox is selected, the system displays an error message under those circumstances.

Prefix

If the Auto Number checkbox is selected, the system assigns a prefix based on the PCR/PCO Type specified and associates the prefix with

the Next PCR/PCO field to create a unique number. Multiple prefixes can be specified. Use the null prefix for types that do not reference a specific prefix.

Next PCR/PCO

The next number available for an associated prefix. If Auto Number is set to Yes, the system will automatically create a number when a new PCO or PCR is created. The system determines the correct prefix to use based on the Type and Design Group. Then it finds the next number for the associated prefix.

Product Structures

A product structure is a bill of material that lists all the subassemblies, intermediates, parts, and raw materials that go into the parent assembly, including the quantity of each that is required.

Understanding Product Structures and Formulas

Product structures are much like the list of ingredients for a recipe—they indicate the components and quantities needed to make a product. Unlike a recipe, in many cases, these documents also list the ingredients for each component. Graphically, if a product structure or formula is considered in its entirety, it looks like a tree, with the parent item at the top (level 0) and all the components branching off down to the raw material level (levels 1, 2, 3, and so on).

Product structures are recorded as single-level relationships between parent (or higher-level items) and component items. For formulas, these are the relationships between products and ingredients. Product structures are modular. Separate structures are entered for finished goods and lower-level assemblies or intermediate products. So, a component in a higher-level structure might be a parent in a lower-level structure. Looking in the other direction, a parent in a lower-level structure can be a component in a higher-level structure.

Creating a Product Structure

You can create a new product structure in two ways:

- Using an existing item number
- Assigning a new product structure code

Create a New Product Structure Using an Existing Item Number

1. In the default browse view, click New.

   The cursor displays in the Product Structure field in the Main panel.

2. Select the item using the lookup (Item Master table), or manually enter an existing item number.

   The Unit of Measure and Description fields default based on the item number.

3. Click Save to create the new product structure.

   The section above the Main panel is called the Summary panel. It has important information that can be useful in creating or maintaining a product structure.

Create a New Product Structure Using a Product Structure Code

1. In the default browse view, click New.

The cursor displays in the Product Structure field in the Main panel.

2. Enter a new product structure code.
3. Optionally, enter a description and UM.
4. Optionally, select Formula or Service BOM:
   a. Select Formula to define a formula. The Batch Size field displays.
   b. Select Service BOM to define a service product structure (associated with SSM).
5. Click Save to create the product structure.

Product Structure & Formula Copy Action

This function, Product Structure & Formula Copy, is useful when items share similar structures or formulas to create alternates. Components are copied from the source structure or formula to the destination. You can modify the results by adding, deleting, or changing requirements.

Select an existing BOM or formula code (or Parent Item) as the source, and then specify the destination code. Components in the source structure or formula display and can be copied to the destination. When the destination structure or formula has some components that exist in the source one, the system checks the setting of Common Components to determine whether item quantities are replaced or combined.

The system also displays the simulation results for the copy action in the Components grid, allowing you to check before submission. If the copy operation is run by mistake, you can change or delete the destination structure in **Product Structures & Formulas**.

Note The copy function is not allowed for service BOMs.

When you select an existing product structure or formula and choose Actions > *(Individual*) Copy to New or Existing Product Structure in **Product Structures & Formulas**, the **Copy to New or Existing Product Structure** window displays.

Note The Summary panel of this window displays information about the destination product structure or formula, including the product structure or formula code, unit of measure, and configured or not. The Batch Size field displays only when the destination is a formula.

Main

The Main panel consists of the following fields:

Product Structure

Enter a new code or select an existing item, BOM, or formula to specify the product structure or formula that is the target of the copy. (This BOM or formula code may already have components.)

Note If the destination structure is not a valid item number or BOM code, the system creates a new BOM code.

This function takes all of the components related to the source structure and relates them to the destination BOM code.

If a component of the source structure is already a component of the destination structure, the quantities per unit can be combined, but other characteristics of the relationship will not be modified. When a component of the source structure is new to the destination structure, it is added with exactly the same characteristics as the source.

If you specify an existing item in Product Structure, more information about this item automatically displays on the right side of this panel, including the following:

- Item
- Description 1
- Description 2
- BOM/Formula
- Routing
- Item Status
- Item Revision
- Purchase/Manufacture

Note These fields are for reference only and can help you better understand the item.

If you enter a new BOM or formula code, you can leave item information blank but edit the Description and Unit of Measure fields.

Description

Enter a short description of this structure.

If the destination BOM code already exists and has a description, it defaults to this field.

Unit of Measure

This field defaults based on the item number you specified.

You can only update the Unit of Measure field of a non-item related structure. For example, if you select an item-related structure, the Unit of Measure field is disabled.

Formula

When the source product structure is a formula, the Formula field is selected by default, and the Batch Size field displays as well.

Batch Size

This field displays only when the source product structure is a formula. Batch Size defaults from the existing destination formula or from the source product structure when the destination formula is a new one.

Common Components

When you copy a product structure or a formula to create a new one, the system copies components from the source structure and adds them to the destination structure. When same items exist in both the source and destination structures, this field determines whether item quantities are replaced or combined:

- Override: The system overwrites destination component quantities with the component quantities defined in the source.
- Combine: The system combines component quantities that are copied from the source structure with those defined in the destination structure.

The default is Combine.

After setting the preceding fields, you can click Search to load components, which are then display as records in the Components panel below.

Note Each time you click Search, the Components panel refreshes.

Components

The system loads all components from the source and destination product structures and displays them in this panel.

Note The system does not load alternate product structures, or past-due product structures (that is, the component end date is earlier than today).

The following fields may display:

- Type
- Component
- Description
- Reference
- Qty Per
- Qty Type
- Batch%
- Qty Per Batch
- UM
- Structure Type
- Operation

- Start Effective
- End Effective
- Source

Note The Qty Type, Batch%, and Qty Per Batch fields are available when the BOM code is a formula while the Qty Per field displays when it is not a formula.

Four values are available for the Source field:

- New: The component record is from the source product structure.
- Combined: The component exists in both the source and destination product structures, and the Qty Per values are combined.
- Override: The component exists in both the source and destination product structures. The Qty Per value defined for the source product structure overrides that in the destination product structure, but the other values like Operation remain the same as in the destination product structure.
- Existing: The component exists in the destination product structure. The values in the destination product structure are used.

You can manually select components and click Submit to copy them to the destination structure.

Updating a Product Structure

You can update the description and UM of an existing product structure.

Note

You can only update the UM of a non-item related structure. For example, if you select an item-related structure, the UM field is disabled.

1. Select an existing product structure from the browse.
2. Click Edit.

   You also can double-click the product structure record in the browse.
3. Update the description and UM, as needed.
4. Click Save to commit your changes.

Creating, Updating, and Saving Components in a Product Structure

You can add component items to an existing product structure, as well as update information about the items, using two methods:

- Directly in the grid view of the product structure
- In a form view

Make Product Structure Component Changes in the Grid View

You can use the grid view to perform two tasks:

- Add a component to the product structure.
- Update many fields on an existing component.

Add New Component in Grid View

1. Select an existing product structure from the browse.
2. Click Edit.

   You also can double-click the product structure record in the browse.
3. Click on the Components panel, or scroll down to it.
4. Click New.

   This creates a new in-line editable row in the grid.
5. In the Component field, select the item using the lookup (Item Master table), or manually enter an existing item number.

   The first field in the grid is the Type field, which defaults to Item. The Type field toggles the lookup in the Component field between the Item Master table and the BOM Master table. In the Component field, select an item using the lookup (Item Master table), or manually enter an existing item number.

   You can also add a BOM code as a component of a product structure by changing the Type field to BOM (this changes the lookup to the BOM Master table) or manually entering the BOM code in the Component field.
6. Enter values for the other fields, as needed.

   You cannot update Description or UM, which come from the Item Master record or BOM.
7. When you are finished, click Done.

Update Existing Component In Grid View

1. Select an existing product structure from the browse.
2. Click Edit.

   You also can double-click the product structure record in the browse.
3. Click on the Components panel, or scroll down to it.
4. Double-click a component to update, or select the component and click Edit.

   The component record opens in an in-line editable row.
5. Update available fields, as required. When Formula or Service BOM is selected, the fields in the component record vary.

You cannot update the following key fields:

- Component
- Reference
- Start Effective
- Description, UM (from Item Master)

6. To navigate down the product structure and access more components, click Next Line.
7. When you are finished, click Done.

Retrieve, Add, Update, and Save Product Structure Components in the Details Mode

An alternative to the grid view lets you use a form to add and update product structure information.

Use Details mode to perform several functions:

- Add a component to the selected product structure shown in the Summary panel by clicking New above the Summary panel.
- Modify information about existing parent-component relationships, except for the following key fields: Component, Start Effective Date, Reference.
- Delete a component from the selected product structure shown in the Summary panel by clicking Delete above the Summary panel
- Click Save to save any changes made to the parent-component relationship.

To access this alternative navigation:

1. Select an existing product structure from the browse.
2. Click Edit.

   You also can double-click the product structure record in the browse.

3. Click on the Components panel, or scroll down to it.
4. Click the Details link.

   The system displays a hybrid view, consisting of:

   - A component browse on the left that lets you navigate to the components of the selected product structure. You can navigate to individual components and update them, as needed, while maintaining parent-component relationships.
   - A form displaying fields on the right. You can update most of the values, as required.

Updating a Component with Levels = Yes

When a component of a product structure is itself a parent item, you can add or update child-level components.

You can easily determine such relationships using the Levels field on the component grid or details form. When Levels is selected, the item can have a subordinate structure.

Levels is a read-only field.

If you add an existing BOM code to the product structure, the Levels field is selected to indicate that it relates to a structure.

On a component where Levels is selected, you can click Open Structure to view the subcomponent structure of the selected component.

Updating a Component with Levels = No

On a component where Levels is unchecked, you can directly create a structure for that component.

1. Click the Open Structure button.

   A message prompts you to create a new structure.

2. Click Yes to begin the process of creating a new structure, just as if you had clicked on New above the Summary panel. Click Cancel to exit the prompt and to return to the previous screen.
3. Click Save at the bottom right or click New in the Components panel to add components.

   The system displays a “Saved” message when the record is saved.

At the top left of the screen, breadcrumbs help you to easily navigate to the previous screen.

Working With Configured Product Structures

You can use Product Structures to define structures for configured items. See *QAD Sales User Guide* for detailed information on configured items.

The P/M column in the main Product Structures browse identifies items defined with a Purchase Manufacture code of C (Configured) in Items.

Note Some configured items are defined on the item-site level, even if they have a P/M code of M in the Item Master. In those cases, the Product Structure browse shows a P/M code of M.

When you select a product structure record for a configured item, the Web UI includes an Options grid.

Determining Where Items Are Used in Product Structures

You can either click the Where Used tab or scroll down to view where the current record is used.

Separate grids display the following information:

- Parents that use the current product structure as a component.
- Item records that reference the current product structure as the BOM/ Formula code.

Both views include where-used information from both site and item-site records.

Note

Where-used information is included at only one level of the product structure. To view hierarchical data for multilevel structures, continue to use the Where-Used Report or Where-Used Inquiry.

Deleting a Product Structure

Before you can delete a product structure record, the system verifies that it is not used. If the structure is used, Product Structures displays an error message and does not delete the record.

- The Delete button is not available on a product structure that has components assigned. You must first delete all components from the product structure before you can delete the structure itself.
- If you attempt to delete a product structure that is not an item and that is referenced as a component in another product structure, the system displays the following messages:

  Failed to delete product structure.
  Delete not allowed, product structure in use as component.

Viewing Product Structure Reports

For example, to see all levels of a product structure in a single view, you can use Product Structure by Item Report.

Product Structures & Formulas

The **Product Structures & Formulas** view consists of several panels, supporting a variety of functions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays the key data about the product structure or formula you are working on, including Product Structure, Unit of Measure, and Configured. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel allows you to set the basic information about a product structure or formula.

Product Structure

Select an item using the lookup, or manually enter an existing item number.

Co/by-products are supported in **Product Structures & Formulas**. When entering a base process code for a co/by-product structure, note that the base process must meet the following requirements:

- It must be a valid item number defined in **Items**, which is not configured (Purchase/Manufacture code is not set to C) and is not defined as a global phantom (Phantom is not selected).
- The BOM/Formula field in **Items** must be blank or is the same as the base item number. A base process cannot reference a different BOM or formula.
- It cannot be defined as a co-product or by-product of another base process or as a component of a standard product structure.
- It cannot have any alternative structures.

A base process is a common process that creates more than one product. A resulting product can be a co-product or a by-product. An item can be a by-product of one base process and can also be a co-product of another base process. Co-product/by-product structures are entered as relationships between a base process (BOM/formula code) and each of its co-products and by-products. You can define the co/by-products of the base process in the Co/By-Products grid below.

After you specify an item in Product Structure, more information about this item automatically displays on the right side of this panel, including the following:

- Item
- Description 1
- Description 2
- BOM/Formula
- Routing
- Item Status
- Item Revision
- Purchase/Manufacture

These fields are for reference only and can help you better understand the item.

Description

This field defaults based on the item number you specified. You can reserve the item description defined in **Items** or modify the description as needed.

Unit of Measure

This field defaults based on the item number you specified.

Note that the Unit of Measure field is disabled for formulas. You can choose Actions > *(Individual*) Change Batch Quantity in **Product Structures & Formulas** to change a formula's batch size.

Formula

Leave this field blank or select it to define a formula.

Note Once you select Formula, the Service BOM field below disappears but the Batch Size field displays.

Batch Size

Enter the normal batch size for this item. This field displays only when the Formula field is selected.

This value cannot be updated manually. It is updated by the Change Batch Quantity action in **Product Structures & Formulas**.

Batch size is used only with formula or process functions. Ingredient quantity per and process operation run times are stated in terms of batch size.

Note If you change the formula batch size, make sure that you also change the item order quantity. These should always be the same. This is not maintained by the system; you must do it manually. Item order quantity is used for both cost and lead-time calculations, and can significantly impact scheduled due dates.

Service BOM

Leave this field blank or select it to define a service product structure (associated with SSM).

Note Once you select Service BOM, the Formula field above disappears.

Base Process

Indicates whether this product structure or formula is for co/by-products.

This field is enabled only when you are creating a product structure or formula, or maintaining an existing one without any co/by-products linked to it. Select the Base Process checkbox when you want to manage a product structure or formula for co/by-products.

Note Once you select Base Process, the system displays the Quantity Complete Method field in the Main panel. In addition, the system displays the Co/By-Products panel below; you can then create or maintain co/by-products in the Co/By-Products grid.

Quantity Complete Method

On a co/by-product structure, this field determines the method used by **Production Order Accounting Close** to calculate the base process quantity complete for a joint order set. For other types of product structures and formulas, the setting of this field has no effect.

Select one of the five valid calculation methods: SUMMARIZE, SUM OF CO-PRODUCTS, MAXIMUM, MINIMUM, and ORDER. You cannot leave this field blank.

The base process quantity complete for a joint order set is calculated as any one of the following, depending on the quantity complete method specified in the co/by-product structure:

- When SUMMARIZE: the total quantity complete for all co-products and by-products in the joint order set
- When SUM OF CO-PRODUCTS: the total quantity complete for co-products only
- When MAXIMUM: the base process quantity required to complete the co-product that consumed the greatest amount of the base process in proportion to the quantity ordered
- When MINIMUM: the base process quantity required to complete the co-product that consumed the least amount of the base process in proportion to the quantity ordered
- When ORDER: the base process quantity complete is equal to the quantity ordered on the original base process production order

The Quantity Complete Method value in **Product Structures & Formulas** defaults from the setting of Co/By Quantity Complete Method in **Production Control**. You can manually maintain this field when creating or updating co-product and by-product structures. For more details about this field, see the field description of Co/By Quantity Complete Method in Production Control on page 3488.

Note In **Product Structures & Formulas**, the Quantity Complete Method field and the Co/By-Products panel are available only for base processes. When you clear the Base Process checkbox, both the Quantity Complete Method field and the Co-By-Products panel disappear.

Components

The Components panel lists all components existing in the product structure, in a treelike structure. This helps you easily view the hierarchy of this product structure and maintain the components at multiple levels on a single screen.

The As of Date field enables you to filter effective records. The grid below displays the components that are effective on the specified As of Date. By default, As of Date is set to today's date. To view the active components

on another date, change the As of Date value and click Apply. Each time you modify As of Date and click Apply, the system refreshes the records displayed in the grid.

The Levels field determines how many levels in a product structure display in the grid. It provides the option All as well as values ranging from 1 to 99. For example, when you set Levels to 5 and click Apply, the system displays the components in the product structure up to 5 levels.

Note If you want to view deeper levels, you can select a specific component in the structure and click Open Structure. Then you can drill down to 5 levels of the component.

You can set Levels to All to make the system display the whole hierarchy. All levels in the product structure are visible in the grid.

You can click New above the grid to add more components to this product structure, or select an existing component record and click Edit or Delete to modify or remove it.

You can click **+ Item** at the left side of a component record in the grid to add a child item to this component. You can also click the drop-down arrow and choose **+ BOM** to add a BOM to the component. The icon you click toggles the lookup in the Component field between the item master table and the BOM master table:

- When you click **+ Item**: Item codes defined in **Items** display.
- When you click **+ BOM**: BOM codes defined in **Product Structures & Formulas** display.

Note In a product structure, you can create multiple records for a certain component with different references or different effective date ranges. When you are adding a component that already exists in the product structure, the system highlights the existing one in yellow in the structure; therefore you can easily locate it.

Using Drag & Drop, you can easily change the hierarchy of the product structure. For example, you can click Drag & Drop and then drag a child from a certain component to another one. Once you drop it, the system displays the child in yellow to highlight it. Both this child and its components (if any) are added for the new component. Similarly, if you delete a child, both this child and its components are removed.

You can choose More > Expand All or Collapse All to expand or collapse the whole structure in the grid.

After selecting a component record in the grid, you can click Open Structure to launch a page that displays a subcomponent structure of the selected component. You can then view or update the child components for the selected component on that page. If the select component does not have a subordinate product structure, the system prompts you to create a product structure for it. Click Yes to create one.

To facilitate , you can click Details to open the **Components** hybrid view. The browse on the left helps you navigate to different components of the selected product structure, and the form on the right enables you to maintain parent-component relationships of the components, as well as component picking data and substitute items.

The **Components** hybrid view consists of three panels: Main, Component Picking, and Local Substitutions. Note that the Component Picking and Local Substitutions panels are unavailable when Type is BOM.

Main

Type

This field identifies whether the component is an item or a BOM code. This value determines how the lookup is displayed for the Component field when you add a new component in the grid or the details view.

- Item (default): Item codes defined in **Items** display in the lookup.
- BOM: BOM codes defined in **Product Structures & Formulas** display in the lookup.

When you manually enter a component, which is not an item, in the Component field, and move the cursor out of the Type field, the system automatically sets Type to BOM.

When Type is BOM, the system does not display the Component Picking or Local Substitutions panel below.

Component

Enter the code identifying a component in this product structure or formula. This must be an item defined in **Items** or a predefined BOM code in **Product Structures & Formulas**.

Each level of the product structure includes only those components used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another.

You cannot define a cyclic product structure. For example, if item 22-B is a component of item 11-A, you cannot specify that item 11-A is a component of 22-B.

Description 1

This field is read-only. It displays a description from item master data if Component is an item or from BOM master data if it is a BOM code—that is, represents a sub-assembly.

Description 2

This field is read-only and displays the second description line set in the master data for extra or supplementary information on the item or BOM.

Reference

Enter a code uniquely identifying this parent-component relationship. This field is required only if the same component appears in the product structure at the same level more than once. In this case, each relationship is uniquely described by the combination of parent item, component item, start effective date, and reference code.

This field cannot be edited after the component has been added.

In a product structure for a discrete product, the reference identifier is often used as a position indicator.

You can also use reference for drawing or document references, such as footnotes on engineering blueprints or shop assembly drawings.

When you define an alternate structure, you can enter a reference number to separate alternates visually from standard component items and from each other. You can generate some reports in sequence by reference number rather than component item number, so that alternates can be listed separately.

Note When Structure Type of the component is Configured, the system displays the Feature field instead of Reference.

Quantity Per

Enter the quantity of the component items required to make one unit of the parent item. Unit is the standard unit of measure identified for the parent item in **Items** or the BOM code in **Product Structures & Formulas**.

Component quantity per and scrap percentage are used throughout the system for manufacturing planning and control. When a manufacturing demand is created for the parent item, the component requirements are determined by multiplying the order quantity by the component quantity per, and then adjusting this upward to account for any scrap percentage. This is the demand quantity used by Material Requirements Planning (MRP). This quantity prints on picklists and other reports.

Quantity per and scrap percentage are also used by Product Structure Cost Roll-Up to calculate the cost of the parent item.

Note If the parent of the component is a formula, the Quantity Per field disappears; the system displays Quantity Type, Batch %, and Quantity Per Batch instead.

Quantity Type

This field is available only when the parent of the component is a formula.

Enter a code specifying how the component is used for this formula. You cannot change Quantity Type for an existing record.

Quantity Type determines how quantity and percent are maintained as follows:

- Blank (parent's unit of measure). This defines quantity in terms of the parent's unit of measure, assuming a batch size of 1. For example, if the unit of measure of ink is liters and the quantity per of ink concentrate is 10g, 10 grams of concentrate are needed for each liter of ink.
- Batch (batch size). This defines quantity in terms of the parent's batch quantity. For example, if the batch size of ink is 50 liters and the quantity per of ink concentrate is 10g, 10 grams of concentrate are needed for each batch.
- Percent (percentage of batch). This defines quantity as a percentage of the parent's batch size, specified in the Batch % field. For example, if batch size of ink is 50 liters and water makes up 90% of the batch, 45 liters of water are needed for each batch.

Batch %

This field is available only when the parent of the component is a formula.

When Quantity Type is Percent, enter a value in Batch Percent. This defines quantity as a percentage of the parent's batch size.

When Quantity Type is Batch or blank, this field is disabled.

Quantity Per Batch

This field is available only when the parent of the component is a formula.

How this field is used and updated depends on the value of Quantity Type:

- When Quantity Type is blank, define the quantity in terms of the parent's unit of measure, assuming a batch size of 1.
- When Quantity Type is Batch (batch size), define the quantity in terms of the parent's batch quantity.

- When Quantity Type is Percent (percentage of batch), enter a value in Batch %. The system then calculates the quantity based on the percentage of the parent's batch size.

You can update the parent's batch quantity by taking the Change Batch Quantity action. When Quantity Type is Blank or Percent, the quantity per is automatically recalculated based on the new batch quantity.

Structure Type

Enter the code that indicates how this component is used in this structure or formula.

Typically, Structure Type is left blank, indicating that the component is used in standard manufacturing planning and control and product costing functions. Other product structure type codes indicate special relationships:

- Configured. Use this code for items whose Purchase/Manufacture code is set to C (Configured) in **Items**.
- Document. Items with this code are not planned, costed, or exploded. Use Document for miscellaneous expense items or documents associated with the bill.
- Phantom. A local phantom is never planned as a component requirement. The explosion logic always ignores the phantom item, using only its components for costing, planning, and manufacturing activity. The phantom use-up logic is not available for local phantoms. Use Structure Type of Phantom to identify such things as repair kits, which may sometimes be assembled and sold separately as well as included in a finished item.
- Planning. This code identifies a relationship used for planning only. The parent item of a planning bill is typically a family item. Planning bills are used for multilevel master scheduling.

Note Generally, when you are adding a component, the system leaves Structure Type blank by default and you can modify the type as needed; however, the system defaults Structure Type of the component to Configured if the parent item is a configured item.

Option Group

Enter an optional code grouping components in this product structure. You can also use the lookup to choose one from the **Product Structure Master** view.

Option group is used only by Receipts - Backward Exploded. Otherwise, this field is for reference only.

If you specify an option group in Receipts - Backward Exploded, only components in the bill that belong to the group are backflushed. Typically, all components are backflushed from inventory when a finished item is received. However, in some situations, you may not

have used all the components in the bill. For example, a configured product may be assembled from a particular group of options.

Process

Enter an optional code grouping components in this product structure by process. You can also use the lookup to choose one from the **Product Structure Master** view.

Process is used only by Receipts - Backward Exploded. Otherwise, this field is for reference only.

If you specify a process in Receipts - Backward Exploded, only components in the bill associated with the process are backflushed. Typically, all components are backflushed from inventory when a finished item is received. However, in some situations, you may use different components based on the manufacturing process.

Scrap %

Enter the percentage of this component item expected to be scrapped during the process of making the parent item.

Component quantity per and scrap percentage are used for manufacturing planning and control. When a manufacturing demand is created for the parent item, the component requirements are determined by multiplying the order quantity by the component quantity per, and then adjusting this upward to account for any scrap percentage. This results in the demand quantity used by Material Requirements Planning. This quantity prints on picklists and other reports.

Quantity per and scrap percentage are also used by Product Structure Cost Roll-Up to calculate the cost of the parent item.

When a scrap percentage is used, component quantities are not rounded, which may result in fractional amounts rather than whole units. Use scrap percentage carefully, especially for discrete items, since both MRP and inventory backflush calculations use it.

For example, a discrete item such as an engine has a 2% scrap rate. When a requirement for 80 engines exists, the system calculates the demand quantity to be 81.6. You can use the Order Multiple field in the item planning data to ensure discrete order quantities for end items only. When scrap is used, you cannot prevent the system from calculating fractional quantities for components.

Lead Time Offset

Enter the number of working days required from the start of production on the parent item until this component is required. You can enter a

negative lead time offset if a component is required before the release date of the parent item.

Manufacturing picklists and Material Requirements Planning (MRP) determine dates for component requirements using lead time and lead time offset.

When the same component is required more than once with different lead time offsets, you should enter a different operation for each component occurrence. Otherwise, the component requirements for orders will be summarized by operation. When this happens, the requirement for the component is based on the shortest lead time offset.

Lead time offset is useful for long production lead times, expensive components, and when components have a limited shelf life. Accurate lead time offsets can reduce costs by delaying the acquisition or production of an expensive component until the latest possible time.

Start Effective

Specify the first day this parent-component relationship is effective. Leave it blank if the relationship has no defined start date. The start and end effective dates are inclusive and cannot overlap.

The Start Effective date cannot be edited after the component has been added.

Parent-component relationships are typically effective over a defined period of time. Effective dates are used to phase in engineering changes and to maintain product structure history.

Manufacturing planning and control functions always use the product structure information in effect on that date. You can generate many reports and browses for a specific effective date. This is useful for cost calculations, letting you change the product structure effective in the future, and then evaluate the effect of the change.

To maintain product structure history, use the following procedure when you make changes. Modify or add an end effective date to the current relationship. Then add a new relationship with the required change with a start date after the end date of the older relationship. If you are using engineer change orders (ECN), you can enter the ECN number in the reference field.

End Effective

Specify the last day this parent-component relationship is effective. Leave it blank if the relationship has no defined end date. The start and end effective dates are inclusive and cannot overlap.

Operation

Enter the number identifying the operation in the routing or process where this component is used.

For components, this field:

- Determines whether this component is backflushed in repetitive manufacturing. If you enter the operation number here, this component is automatically issued (backflushed) when you report quantities for the parent using the Report Operation Activity action in **Production Operations Reporting**. If Operation is blank or does not match a defined operation, this component is not backflushed. You can issue items manually by choosing Actions > (*Individual*) Receive Backward Exploded > Modify Backflush in **Inventory Detail**.
- Enables component yield cost calculations. Both Product Structure Cost Roll-Up and Routing Cost Roll-Up use this field when calculating material costs. If the operation yield is less than 100% in **Routings & Processes**, then material costs are increased to reflect yield loss. If Operation is left blank, the system assumes components are issued at the first operation.
- Enables operation-based yield calculations. If the parent item is defined with Operation Based Yield set to Yes in **Items** and Enable Operation Based Yield is Yes in the MRP panel of **Planning Control**, MRP derives component yield percentages from the operations on the parent's routing. The same method is used when bills of material are exploded in production orders and configured products.
- Determines whether this component prints on picklists printed. If Operation is entered here, the component can be picked.

When the same component is required more than once with different lead-time offsets, specify a different operation for each occurrence. Otherwise, the component requirements for orders are summarized by operation. When this happens, the requirement for the component is based on the shortest lead-time offset.

Do not leave Operation blank if you are using yield costing or repetitive manufacturing. In repetitive manufacturing, you do not need to report at this operation in order to backflush this component. Reporting at a subsequent milestone operation backflushes this one.

Sequence Number

Enter an optional sequence number for this product structure relationship. Most functions list component items in sequence by item number. Use the **Product Structures** report to list components based on the sequence number.

Remarks

Enter optional remarks regarding this product structure relationship.

This field is for reference only and may appear on selected reports and browses. You can use remarks to help identify when and where alternate structures are used.

Forecast %

Enter the forecast percentage for this component item. The default is 100%. The forecast percentage is used by Material Requirements Planning (MRP) when the structure type is Planning. MRP calculates the component production forecast by multiplying the quantity available to promise for the parent by the component quantity per and forecast percent.

Levels

This field is read-only.

When Yes, it indicates the component item has its own structure.

Component Picking

You can use this panel to set up component picking data specific to the BOM code in which a component item is used.

Note This panel is available only when Type of the component is Item. In addition, this component must be a valid item defined in the BOM with a blank Structure Type.

The production picking data of a component item may vary when it is used to produce different parent items. In the Component Picking panel, you can set up the allocation, pick, and issue policies by parent-component relationship. That means you can define different sets of policies for a component when it is used for producing different parent items.

In a product structure, you can create multiple records for a certain component with different references or different effective date ranges in the Components grid. Each parent-component relationship is uniquely identified by the combination of parent item, component item, start effective date, and reference code. By specifying the Start Effective and End Effective dates, you can make a parent-component relationship record with specific allocation, pick, and issue policies be effective over the defined period of time.

When a production order is created, the system copies the allocation, pick, and issue policies for the component from the following data settings in this sequence:

1. First, component picking data for the component used for the parent item

2. Then, item-site inventory data when no specific component picking data is available
3. Finally, item inventory data when no item-site inventory data is available

Allocation Policy

Determine whether to automatically create detail allocation for the component when the production order is allocated.

The following options are available:

- ItemSite: Allocation Policy set in item-site inventory data
- Detail: Detail Allocation
- General: General Allocation

The default is ItemSite.

Pick Policy

Determine what picking action to take for the component on the production order.

The following options are available:

- ItemSite: Pick Policy set in item-site inventory data
- No Pick: Do Not Pick
- Transfer: Pick and Transfer
- Issue: Pick and Issue

The default is ItemSite.

If Pick Policy is not ItemSite, Issue Policy cannot be set to ItemSite.

Invalid combinations are:

- Pick Policy of Issue with Issue Policy of No Issue
- Pick Policy of Issue with Issue Policy of Backflush
- Pick Policy of Transfer with Issue Policy of No Issue

Issue Policy

Specify what issuing action to take for the component on the production order.

The following options are available:

- ItemSite: Issue Policy set in item-site inventory data
- No Issue: Do Not Issue
- Backflush: Backflush

- Direct: Issue Direct to Order

The default is ItemSite.

When Issue Policy of an item is set to No Issue, the item is treated as floorstock. The settings of Detail Allocation, Pick Policy, and Transfer-Allocation Policy are ignored by the system.

If Issue Policy is not ItemSite, Pick Policy cannot be set to ItemSite.

Invalid combinations are:

- Pick Policy of Issue with Issue Policy of No Issue
- Pick Policy of Issue with Issue Policy of Backflush
- Pick Policy of Transfer with Issue Policy of No Issue

Local Substitutions

The Local Substitutions panel is available in the **Component** details page only when Type of the component is Item.

Substitute items may be used when components are issued and when co/by-products are received. When a standard component is short or defective, a substitute item may be used. In the case of component issues, a substitute item may be specified when a standard component is short or defective. In the case of co/by-product receipts, a substitute item may be specified when a co- product or by-product that is produced is a different grade (and item number) than expected.

There are three types of substitutions:

- Global substitutions: If a substitute item is defined in **Items** and is not site-specific, it is a global substitution. In this case, the substitution relationship can be used anywhere, regardless of the parent item.
- Local substitutions: If a substitute item only applies to particular product structures, it is called as a local substitution. Substitutions of this type are supported in the Local Substitutions panel of the **Component** details page.
- Co/by-product substitutions: the substitute items defined for co/by-products. Substitutions of this type are supported in the Local Substitutions panel of the **Co/By-Product** details page.

  Note For details about how to maintain substitutions of co/by-products, see Section Co/By-Products on page 2461 below.

You can maintain comonents' substitutions on this panel only when the type of the component is Item. All substitutions added on this panel of **Components** are local substitutions. Global substitutions are view only in this grid.

If no effective date or reference is defined on an item substitution, the substitution relationship applies to all parent-component combinations. For example, if the combination “Component CompA + Reference

Ref1” is used in operation 10 of parent ParA, and “Component CompA + Reference Ref2” is used on operation 20 of parent ParA, then the substitute item Subs1 defined for the combination “Parent ParA + Component CompA” could be used on both operations.

On the Local Substitutions panel, click New to create new local substitutions, or click Edit or Delete to maintain existing local substitutions. You can also click Details to launch the **Item Substitute Detail** hybrid view.

Substitution Item

Enter a code to specify an item as a local substitution.

Substitute items may be issued to production orders and referenced when modifying a backflush transaction. Issuing an allowable substitute decreases the requirement for the preferred component.

Other items may be issued to a production order or backflushed, however they are treated as unplanned additional items, not as substitutes. They add to the cost and they do not change the requirement for other components. Only predefined substitutes decrease the requirement, and usually have little effect on cost.

Alternate items are not checked by the MRP process and production order picking logic. Alternate items that are phantoms are not exploded when selected on an inventory transaction.

Note

The Unit of Measure and Description fields default, based on the item number.

Description 1

This field is read-only. The system displays the primary description for the item.

Description 2

This field is read-only. The system displays the extra or supplementary information for the item.

Unit of Measure

This field is read-only. The field value defaults in, based on the item number you specified.

Substitute Quantity

Specify the quantity of the substitute item equivalent to one unit of the preferred component item. The default is 1.

When this substitute item is issued, the quantity to issue of the preferred component is multiplied by the quantity per of the substitute item and displayed as the default quantity to issue: two 2-pin connectors can be substituted for one 1-pin connector. If your assembly

calls for 20 connectors, and you enter the substitute item code for 2-pin connectors, the quantity to issue displays as 40.

Substitute items can be defined for component substitutions to allow ingredients to be substituted during issue and backflush transactions. Substitute items may also be defined for co/by-products to allow alternate products to be received from a production order.

For component backflush, you can set Substitute Quantity to zero to force the user to manually enter the actual quantity used each time.

Local Substitution

Indicates whether a substitution is a global or a local substitution. When Yes, this item is a local substitution and you can maintain it. When No, this item is a global substitution and you cannot maintain it in this grid.

Remarks

Optional remarks regarding this substitute item relationship.

You can enter some remarks about the substitution or leave it blank.

This field is for reference only and may appear on selected reports and browses.

Remarks may help identify situations when this substitute item may or may not apply.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this substitution.

You can create multiple records with different page numbers to add notes for one substitution.

Note The Notes panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Note In the detailed **Notes** view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Co/By-Products

The Co/By-Products panel is available only when the Base Process field is selected in the Main panel.

A co-product or by-product structure defines the items that result from a base process and specifies whether they are co-products or by-products. This panel allows you to maintain the relationships between a base process and its co/by-products.

The co-products and by-products of a base process do not have their own product structures or routings. These are defined in the base process. A base process has:

- An associated item record
- A product structure listing its co-products and by-products
- A formula (product structure) listing its component requirements (optional)
- A routing listing its operations (optional)

There are some important distinctions between base process items and regular items:

- Base process items are never regarded as items to be stocked. Item status codes are used to restrict inventory transactions related to base process items and to ensure that these items never appear on sales or purchase orders.
- Base process items cannot be used as components in another process.

The Co/By-Products grid consists of the following fields: Item, Description, Co/By Type, Quantity, UM, Cost Allocation %, Start Effective, End Effective, and Remarks. When the base process is a formula, the grid also displays the Quantity Type and Process % fields.

Using the New, Edit, and Delete buttons above the grid, you can easily update the co/by-products for the product structure or formula in the grid. You can also click Details to launch the **Co/By-Product** hybrid view, which consists of two panels: Main and Local Substitutions, for further .

Main

Co/By Type

Specify the type of the product you want to define on the product structure or formula. You can select Co-Product or By-Product from the drop-down list.

The default is Co-Product.

The products resulting from a base process must be categorized as one of the following:

- Co-product: A product that is the intended result of a process and usually has significant sales value.
- By-product: A product that is an incidental result of a process and usually has little sales value.

Material Requirements Planning (MRP) plans base processes and creates planned joint orders from unsatisfied co-product demand (but not by-product demand). Standard, average, and last costs are calculated for co-products from co/by-product structures or joint orders. By-product costs are considered fixed.

Note When an item has been defined as a co-product, you cannot add components to it. The BOM/formula code for a co-product is the item number of the co-product's base process.

Item

Enter the number identifying a co-product or by-product associated with this base process. You must specify a valid item defined in **Items**. The item cannot be:

- A configured product (Purchase/Manufacture code of C)
- A global phantom (Phantom option is selected)
- A base process item

Note You can define an item as either a co-product of a base process or a standard product structure.

Co/by-product structures are entered as relationships between a base process and each of its co-products and by-products. The components of the base process are defined in the Components panel.

Description 1

This field is read-only and displays the primary description set in **Items** for the specified item.

Description 2

This field is read-only and displays the second description line set in **Items** for extra or supplementary information on the item.

Revision

A code identifying the engineering revision of this item.

Revision codes are typically associated with a particular engineering drawing or process and used to track changes. You can enter the current item revision manually using **Items**. Unlike other item engineering data, you can set the item revision code in **Items** and also define site-specific revision codes in item-site planning data.

Start Effective

Specify the first day this relationship (between the base process and this co-product or by-product) is effective. Leave it blank if the

relationship has no defined start date. The start and end effective dates are inclusive and cannot overlap for the same combination of component and reference.

The Start Effective date cannot be edited after the component has been added.

Such relationships are typically effective over a defined period of time. You can use effective dates to phase in engineering changes and to maintain product structure history.

Manufacturing planning and control functions always use the product structure information in effect on the current date. You can generate many reports and browses for a specific effective date. This is useful for cost calculations, letting you change the product structure effective in the future, and then evaluate the effect of the change.

To maintain product structure history, use the following procedure when you make changes. Modify or add an end effective date to the current relationship. Then add a new relationship with the required change with a start date after the end date of the older relationship.

End Effective

Specify the last day this relationship is effective. Leave it blank if the relationship has no defined end date. The start and end effective dates are inclusive and cannot overlap.

Quantity Type

This field is available only when the base process is a formula.

Enter a code specifying how the co/by-product is used for this base process. This field is enabled only when you are creating a record. You cannot change Quantity Type for an existing record.

Quantity Type determines how quantity and percent are maintained as follows:

- When Quantity Type is set to Batch: Enter a value in Quantity. This defines quantity in terms of the base process batch quantity. Process % is then automatically calculated and displayed, but cannot be updated. The system maintains the total percentage of all ingredients in the batch and displays a warning when it exceeds 100%.
- When Quantity Type is left blank: Enter a value in Quantity. This defines quantity in terms of the base process unit. Process % is then automatically calculated and displayed, but cannot be updated.
- When Quantity Type is set to Percent: Enter a value in Process %. This defines quantity as a percentage of the base process batch size. Quantity is then automatically calculated and displayed, but cannot be updated.

Quantity

Enter the quantity expected for this co-product or by-product from the base process. Quantity must be 0 (zero) or greater.

This field is editable when Quantity Type is set to Batch or left blank. Enter the quantity per batch if Quantity Type is Batch, or the quantity per base process unit if Quantity Type is blank. The system calculates this field automatically when Quantity Type is Percent.

The quantity and process percent are used for manufacturing, planning, and control. When entering a production order for a co-product or base process, the system uses these numbers to determine the order quantities in the joint order set.

Material Requirements Planning (MRP) uses these numbers to calculate the base process demand from the unsatisfied demand for its co-products.

Process %

This field is available only when the base process is a formula.

This field is editable and allows you to enter the percentage of the base process batch size when Quantity Type is set to Percent. When Quantity Type is Batch or blank, you cannot update this field.

Cost Allocation %

Enter the percentage of the base process cost to allocate to this co-product during **Product Structure Cost Roll-Up**.

You cannot specify a cost allocation percentage for by-products. By-product costs are calculated separately from the base process cost roll-up.

The same co-product can result from more than one base process, but only one base process determines a co-product's cost at a particular site. This is the base process specified in the BOM/Formula field of the co-product's item record.

Operation

Enter the number identifying the operation in the routing or process where a component is used.

For co-products/by-products, this field is for reference only and may appear on some selected reports and browses.

Remarks

Enter optional remarks pertaining to the item. This field is for reference only and you can leave it blank.

Structure Type

A code that indicates how this component is used in this structure or formula.

For co-products/by-products, this field is display-only and always set to Joint.

Local Substitutions

As described in Components on page 2447, substitute items can be used when components are issued and when co/by-products are received. Substitutions are categorized into three classes:

- Global substitutions: If a substitute item is defined in **Items** and is not site-specific, it is a global substitution. In this case, the substitution relationship can be used anywhere, regardless of the parent item.
- Local substitutions: If a substitute item only applies to particular product structures, it is called a local substitution. Substitutions of this type are supported in the Local Substitutions panel of the **Component** details page.

  Note For details about how to maintain the substitutions of components in a product structure, see Components on page 2447.
- Co/by-product substitutions: the substitute items defined for co/by-products. You can maintain the substitutions of this type in the Local Substitutions panel of the **Co/By-Product** details page.

In the case of co/by-product receipts, a substitute item may be specified when a co-product or by-product that is produced is a different grade (and item number) than expected. By clicking Details in the Co/By-Products panel of **Product Structures & Formulas**, you can launch the **Co/By-Product** details page and manage substitutions for co/by-products in the Local Substitutions panel. You can click New to create new local substitutions for the co/by-product, or click Edit or Delete to maintain existing local substitutions. You can also click Details to launch the **Item Substitute Detail** hybrid view.

Substitution Item

Enter a code to specify an item as a substitution for the co/by-product.

The substitute item may replace the co/by-product during production order receipt.

Note The Unit of Measure and Description fields default, based on the item number.

Description 1

This field is read-only. The system displays the primary description for the item.

Description 2

This field is read-only. The system displays the extra or supplementary information for the item.

Unit of Measure

This field is read-only. The field value defaults in, based on the item number you specified.

Substitute Quantity

Specify the quantity of the substitute item equivalent to one unit of the preferred co/by-product item. The default is 1.

When this substitute item is issued, the quantity to issue of the preferred co/by-product is multiplied by the quantity per of the substitute item and displayed as the default quantity to issue. For example, assume that two 2-pin connectors can be substituted for one 1-pin connector. If your assembly calls for 20 connectors, and you enter the substitute item code for 2-pin connectors, the quantity to issue displays as 40.

Substitute items may be defined for co/by-products to allow alternate products to be received from a production order.

Local Substitution

Indicates whether a substitution is a global or a local substitution. When selected, this item is a local substitution and you can maintain it. When not selected, this item is a global substitution and you cannot maintain it in this grid.

Remarks

Optional remarks regarding this substitute item relationship.

You can enter some remarks about the substitution or leave it blank.

This field is for reference only and may appear on selected reports and browses.

Remarks may help identify situations when this substitute item may or may not apply.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this substitution.

You can create multiple records with different page numbers to add notes for one substitution.

Note The Notes panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Note In the detailed **Notes** view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Item Structure Assignment

The Item Structure Assignment panel is available only when Service BOM is set to No, and displays the items for which this product structure could be used to produce.

Note When you are accessing a base process, the system does not show its co/by-products if the base process is an alternate structure for co/by-products in the Item Structure Assignment grid.

After you set up a product structure, you can link it to an item in several ways, depending on whether this product structure should be used as the default structure or available for use as an alternate structure:

- If the structure should be the default for an item, define the BOM/Formula code for this item on the Main panel of **Items**.
- If the structure should be the default for an item at a particular site, define the BOM/Formula code for this item on the Site Planning Exceptions sub-panel of **Items**.
- If the structure should be available as an alternate for an item, link the structure with the item using the Item Structure Assignment panel in **Product Structures & Formulas**.

Alternate product structures produce the same item using different sets of components. This includes different recipes for different batch sizes, or the substitution of a group of components with an equivalent group.

Approved alternates work for any site, with any routing or process. If an alternate should always be used with a particular alternate routing or process, define this on the Item Routing Assignment panel of **Routings & Processes**. When an alternate structure is specified for an item, the BOM/Formula of the alternate is recorded as a component of that item, identified with Structure Type of Alternate.

This Item Structure Assignment panel allows you to view the items that the current product structure can be used to produce, as well as specify for which item this structure can be used as an alternate.

You can click New to define more items that can use this product structure as an alternate. The Edit, Delete, and Details buttons are enabled only after you select an item whose Source is Alternate on this panel. This then enables you to modify or delete an item record, or launch the **Alternative Structures** hybrid view for further .

After you add an item on this panel for a product structure, you can set BOM/Formula of this item to this product structure when creating a production order for manufacturing this item.

The Item Structure Assignment panel consists of the following fields:

Item

Enter a code identifying an item for which the product structure could be used as an alternate product structure.

Description 1

This field is read-only and displays the primary description set in **Items** for the specified item.

Description 2

This field is read-only and displays the second description line set in **Items** for extra or supplementary information on the item.

Reference

When defining an alternate structure, you can enter a reference number to separate alternates visually from standard component items and from each other. You can generate some reports in sequence by reference number rather than component item number, so that alternates can be listed separately.

Note You can add two or more records for one item if you set Reference differently for them.

Unit of Measure

Unit of measure for stocking and planning this item. This field is view-only and defaults based on the item number you specified.

Purchase/Manufacture

A code indicating how this item is typically processed by the system. This field is view-only and defaults based on the item number you specified.

Source

Indicate the source of the alternate product structure. Alternate product structures can come from any of the following sources:

- Item BOM/Formula: indicates that the product structure is defined for this item on the Main panel of **Items**.
- Item-Site BOM/Formula: indicates that the product structure is defined for this item on the Site Planning Exceptions panel of **Items**. In this case, the Site field also shows the specific site where the setup has been made.
- Alternate: indicates that the product structure is defined for this item as an alternate structure on this panel.
- Item: indicates the parent item itself.

Site

This field is view-only and defaults based on the item number you specified. The specific site where the setup has been made displays in this field only when Source is Item-Site BOM/Formula.

Remarks

Enter optional remarks pertaining to the item. This field is for reference only and you can leave it blank.

Note For item records whose Source is Item, Item BOM/Formula, or Item-Site BOM/Formula, all preceding fields are view-only and cannot be edited. When you are updating an item record with Source set to Alternate, only the Remarks field is editable.

Where_Used

The Where Used panel allows you to view product structures and formulas that use the item. It consists of two sub-panels: Where-Used as Component and Where-Used as BOM/Formula.

Note When you are accessing a base process, the system does not show its co/by-products in the Where-Used grid.

The two sub-panels include where-used information from both site and item-site records.

Where-Used as Component

This grid list the parents that use the current product structure as a component. You can view the following fields about each parent:

- Parent
- Description
- Source
- Parent UM
- Component
- Reference
- Start Effective

- End Effective
- Qty Per
- Scrap %
- LT Offset
- Forecast %
- Structure Type

Where-Used as BOM/Formula

This grid lists the item records that reference the current product structure as the BOM/Formula code. You can view the following item information:

- Item
- Description
- UM
- Source
- BOM/Formula
- Site
- P/M
- Item Status
- Item Type
- Revision

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records, and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Change Batch Quantity Action

The Change Batch Quantity action is used to recalculate the quantity per for all items with quantity type B. The batch size defines formulas, processes, and co-/by-product structures. If the batch size changes, make adjustments to component quantities and relationships as well as co-/by-product structure quantities and relationships by taking the Change Batch Quantity action.

Note Co-/by-product is not supported yet in this release; however, the Change Batch Quantity action supports co-/by-products.

Take the Change Batch Quantity action whenever manufacturing processes change; for example, smaller vessels are replaced with larger ones, or when creating alternates.

When you change batch quantities using the Change Batch Quantity action, the system updates the quantities and times on processes or on formulas. Additionally, when you update the batch size for a BOM/formula code, the system updates process run times and formula quantities per batch.

Once the Change Batch Quantity action is taken, you can adjust component quantities or processing times manually. When the batch quantity changes on the standard item formula and process, change the item's Order Qty in item planning data. In **Product Structures & Formulas**, component quantities may be quantity per unit, percent of batch, or quantity per batch. In **Routings & Processes**, run times are per batch. The Change Batch Quantity action automatically adjusts the quantity per batch and run time in proportion to the new batch size. If the change operation is run by mistake, perform it again to reset the New Batch Size.

Select an existing formula in **Product Structures & Formulas** and choose Actions > *(Individual*) Change Batch Quantity. The **Change Batch Quantity** window displays.

Note You can take the Change Batch Quantity action on formulas only.

The Summary panel of this window displays information about the selected formula, including the formula code, batch size, and unit of measure.

In the Main panel, you can set the New Batch Size, New UM, UM Conversion, or Include Expired Records fields and click Search. The system then identifies the components or co-/by-products that meet the search criteria, calculates the New Qty Per Batch and New Qty per Unit values, and displays the results in the Components or Co/By-Products grids below. You can check the values before submission. You can also make modifications in the grids when needed, and then click Submit to make the changes take effect.

Main

The Main panel consists of the following fields: New Batch Size, New UM, UM Conversion, and Include Expired Records.

The system first fills in the New Batch Size and New UM fields based on the formula you selected in the **Product Structures & Formulas** view. You can modify them as needed.

New Batch Size

Enter the new batch quantity to use for this item.

Both the formula and process for this item are adjusted to reflect the new batch quantity.

Whenever you change the formula's Batch Quantity, make sure that you also change the item's Order Quantity. These should always be the same. This synchronization is not maintained by the system; you must do it manually.

Item order quantity is used for both cost and lead time calculations, and can significantly impact scheduled due dates.

New UM

Enter a new unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

UM Conversion

Enter the unit of measure (UM) conversion. You cannot set this field to 0 (zero).

When you change the value of New UM, the system automatically updates the value in the UM Conversion field, based on the specified UM. If no UM conversion can be found, the system defaults UM Conversion to 1.

Note You can use the **UM Conversions** view to associate conversion factors with selected items. With **UM Conversions**, for a given item, you can specify the From Unit of Measure, the To Unit of Measure, and a conversion factor.

Include Expired Records

Select this checkbox to include the past-due records—that is, records whose end date is earlier than today's date.

After setting the preceding fields, you can click Search to load all components and co-/by-products of the selected formula, if any. The system then displays them as records in the Components and Co/By-Products panels below.

Note Each time you click Search, the two panels refresh. You can check the results and make necessary updates before clicking Submit.

Components

The Components panel displays all components of the selected formula that meet the preset search criteria.

Note If you select Include Expired Records in the Main panel, the expired components are also displayed as records in this grid, with Start Effective and End Effective values provided.

The following fields may display:

- Component
- Description 1
- Description 2
- Reference
- Qty Type
- Batch %
- Old Qty per Unit
- Old Qty per Batch
- New Qty per Unit
- New Qty per Batch
- Start Effective
- End Effective
- UM

Note The system does not display Old Qty per Unit or New Qty per Unit by default. You can configure the view to display them in this grid.

Co/By-Products

The Co/By-Products panel lists all co-/by-products of the selected formula which meet the preset search criteria.

Note If you select Include Expired Records in the Main panel, the expired co-/by-products are also displayed as records in this grid, with Start Effective and End Effective values provided.

The following fields may display:

- Item
- Description 1
- Description 2
- Co/By Type
- Qty Type
- Batch %
- Old Qty per Unit
- Old Qty per Batch
- New Qty per Unit
- New Qty per Batch
- Start Effective
- End Effective
- UM

Note The system does not display Old Qty per Unit or New Qty per Unit by default. You can configure the view to display them in this grid.

In the Components and Co/By-Products grids, check the values calculated by the system.

You can click Submit to make them take effect without any change. You can also update certain fields before submission, if necessary.

- Quantity Type is Batch or is left blank: The New Qty per Batch field is editable.
- Quantity Type is Percent: The Batch % field is editable.

Once you change the value of the New Qty per Batch or Batch % field, the system automatically updates New Qty per Unit or New Qty Per Batch, respectively.

Product Structure & Formula Copy Action

This function, Product Structure & Formula Copy, is useful when items share similar structures or formulas to create alternates. Components are copied from the source structure or formula to the destination. You can modify the results by adding, deleting, or changing requirements.

Select an existing BOM or formula code (or Parent Item) as the source, and then specify the destination code. Components in the source structure or formula display and can be copied to the destination. When the destination structure or formula has some components that exist in the source one, the system checks the setting of Common Components to determine whether item quantities are replaced or combined.

The system also displays the simulation results for the copy action in the Components grid, allowing you to check before submission. If the copy operation is run by mistake, you can change or delete the destination structure in **Product Structures & Formulas**.

Note The copy function is not allowed for service BOMs.

When you select an existing product structure or formula and choose Actions > *(Individual*) Copy to New or Existing Product Structure in **Product Structures & Formulas**, the **Copy to New or Existing Product Structure** window displays.

Note The Summary panel of this window displays information about the destination product structure or formula, including the product structure or formula code, unit of measure, and configured or not. The Batch Size field displays only when the destination is a formula.

Main

The Main panel consists of the following fields:

Product Structure

Enter a new code or select an existing item, BOM, or formula to specify the product structure or formula that is the target of the copy. (This BOM or formula code may already have components.)

Note If the destination structure is not a valid item number or BOM code, the system creates a new BOM code.

This function takes all of the components related to the source structure and relates them to the destination BOM code.

If a component of the source structure is already a component of the destination structure, the quantities per unit can be combined, but other characteristics of the relationship will not be modified. When a component of the source structure is new to the destination structure, it is added with exactly the same characteristics as the source.

If you specify an existing item in Product Structure, more information about this item automatically displays on the right side of this panel, including the following:

- Item
- Description 1
- Description 2
- BOM/Formula
- Routing
- Item Status
- Item Revision
- Purchase/Manufacture

Note These fields are for reference only and can help you better understand the item.

If you enter a new BOM or formula code, you can leave item information blank but edit the Description and Unit of Measure fields.

Description

Enter a short description of this structure.

If the destination BOM code already exists and has a description, it defaults to this field.

Unit of Measure

This field defaults based on the item number you specified.

You can only update the Unit of Measure field of a non-item related structure. For example, if you select an item-related structure, the Unit of Measure field is disabled.

Formula

When the source product structure is a formula, the Formula field is selected by default, and the Batch Size field displays as well.

Batch Size

This field displays only when the source product structure is a formula. Batch Size defaults from the existing destination formula or from the source product structure when the destination formula is a new one.

Common Components

When you copy a product structure or a formula to create a new one, the system copies components from the source structure and adds them to the destination structure. When same items exist in both the source and destination structures, this field determines whether item quantities are replaced or combined:

- Override: The system overwrites destination component quantities with the component quantities defined in the source.
- Combine: The system combines component quantities that are copied from the source structure with those defined in the destination structure.

The default is Combine.

After setting the preceding fields, you can click Search to load components, which are then display as records in the Components panel below.

Note Each time you click Search, the Components panel refreshes.

Components

The system loads all components from the source and destination product structures and displays them in this panel.

Note The system does not load alternate product structures, or past-due product structures (that is, the component end date is earlier than today).

The following fields may display:

- Type
- Component
- Description
- Reference
- Qty Per
- Qty Type
- Batch%
- Qty Per Batch
- UM
- Structure Type
- Operation
- Start Effective
- End Effective
- Source

Note The Qty Type, Batch%, and Qty Per Batch fields are available when the BOM code is a formula while the Qty Per field displays when it is not a formula.

Four values are available for the Source field:

- New: The component record is from the source product structure.
- Combined: The component exists in both the source and destination product structures, and the Qty Per values are combined.
- Override: The component exists in both the source and destination product structures. The Qty Per value defined for the source product structure overrides that in the destination product structure, but the other values like Operation remain the same as in the destination product structure.
- Existing: The component exists in the destination product structure. The values in the destination product structure are used.

You can manually select components and click Submit to copy them to the destination structure.

Change Component Action

Change Component is a bulk action in **Product Structures & Formulas**, which enables you to:

- Add a component to all product structures and formulas that contain a certain existing component. You can specify the effective date range for the new component.
- Delete a component from all product structures and formulas that reference it.
- Replace a specified component in all product structures and formulas referencing it, with a new component. You can specify the effective date range for the new component.
- Phase out a specified component by using a new end effective date in all product structures and formulas referencing it, with a new component phased in using the day after the end effective date of the phased out component.

Note that you must specify the Effective Date for the existing component when searching for product structures and formulas that reference this component. Then the system identifies and displays only the product structures and formulas that contain the specified component and on which the component is effective on the Effective Date.

Note Co-/by-products are not supported yet in this release.

In **Product Structures & Formulas**, choose Actions > *(Bulk*) Change Component. The **Change Component** window displays, which is comprised of four panels: Summary, Options, Criteria, and Product Structures & Formulas.

The Summary panel in this window displays the following fields: Lines Selected, Lines with Errors, Existing Component, and New Component.

In the Options panel, specify the Existing Component and Effective Date for the system to search for existing product structures and formulas, in which the component is included and is effective on the specified Effective Date. You can then determine the action to take using the Action field, and specify the new component as well as its start and end effective dates in the New Component subpanel. When you click Search, the system identifies the product structures and formulas that meet the filter criteria, and displays them in the Product Structures & Formulas grid below. You can check the structures and formulas, and select all or some of them to submit.

Options

The Options panel displays a heading frame together with the New Component subpanel.

The heading frame enables you to specify the Existing Component and Effective Date for the system to search for existing product structures and formulas that reference the specified component. You can set the Action field to determine what action to take: Add, Delete, Phase Out/In, or Replace.

Existing Component

Specify an existing component for the system to search for product structures and formulas that reference this component. You can enter a component code, or click the look-up to open the **Components** view and select an existing component. You can also define a new component in **Components**.

This field is mandatory. You cannot leave it blank.

After you set the Existing Component field, the system displays information about this component on the right for reference, which is read-only:

- Description 1
- Description 2
- Unit of Measure

Effective Date

Specify the date on which the Existing Component you entered is effective.

This field enables you to filter effective records. The Product Structures & Formulas grid below displays all product structures and formulas in which the specified Existing Component is effective on the Effective Date you set.

For instance, assume that there are two product structures referencing component 01010:

- In product structure 01010-01, the Start Effective and End Effective dates of this component are set to March 01, 2021 and March 31, 2021, respectively.
- In product structure 01010-02, the Start Effective and End Effective dates of this component are set to April 01, 2021 and April 30, 2021, respectively.

If you set Existing Component to 01010 and Effective Date to March 10, 2021 in the **Change Component** window, only product structure

01010-01 is located and displayed in the Product Structures & Formulas grid below.

The Effective Date field is mandatory. You cannot leave it blank. The default is the system date. To view the active components on another date, change the Effective Date value.

Action

Choose from the following options as needed:

- Add

  To add the New Component you specified in the New Component subpanel to the product structures and formulas that are identified according to the Existing Component and Effective Date values you have set in the heading frame.
  When you take the Add action, all product structures and formulas that include the existing component on the effective date are identified. Multiple records with different references may exist. The new component is then added to the structures and formulas with the entered effective date range if you have set the Start Effective and End Effective dates when taking the Add action. If you did not set the effective dates, the system applies the Start Effective and End Effective dates defined on the existing component to the newly added component. Regarding all the other fields such as Quantity Per, UM, and Operation, the system always defaults them from the existing component to the new component.

- Delete

  To delete the Existing Component from the identified product structures and formulas.

  Note When you set Action to Delete, the New Component subpanel below becomes unavailable.

  After you take the Delete action, the existing component is removed from all identified product structures and formulas. Multiple records with different references may be removed.

- Phase Out/In

  To phase out the Existing Component in all identified product structures and formulas, with the New Component phased in. After you take this action, the system phases out the existing component with its End Effective date changed to the day before the Start Effective date of the new component. Multiple records with different references may be changed. The system also phases in the new component according to the Start Effective date you entered. When phasing in the new component, the system applies the Start Effective and End Effective dates you entered to the newly added component, and defaults all the other fields such as Quantity Per, UM, and Operation from the existing component to the new component.

- Replace

  To replace the entered Existing Component with the New Component you specified in the New Component subpanel.
  The replacement applies to all product structures and formulas identified.
  The existing component is removed from the structures and formulas while the new component is added with the Start Effective and End Effective dates you set.
  If you did not set the date range (neither Start Effective nor End Effective) when replacing a component, the system applies the date range preset for the existing component to the new component. For all the other fields such as Quantity Per, UM, and Operation, the system always defaults them from the existing component to the new component.

New Component

In the New Component subpanel, you can specify a new component and determine whether to set its effective date range when taking the Add, Phase Out/In, or Replace action. To apply the date range defined on the existing component to the new component, leave Start Effective and End Effective blank. You can enter the Start Effective or End Effective date to make the new component use a specific effective date range.

Note The New Component subpanel is unavailable when Action is set to Delete.

New Component

Specify the new component to add, to phase in, or to replace the existing one.

You can enter a component code, or click the look-up to open the **Items** view and select an existing code. You can also define a new one in **Items**.

This field is mandatory when Action is set to Add, Replace, or Phase Out/In.

After you set the New Component field, the system displays information about this component on the right for reference, which is read-only:

- Description 1
- Description 2
- Unit of Measure

Start Effective

You can specify a new Start Effective date for the new component when necessary; or leave this field blank if you want to default the

Start Effective date defined on the existing component to the new component.

Note that this field is mandatory when Action is set to Phase Out/In.

End Effective

You can specify a new End Effective date for the new component when necessary; or leave this field blank if you want to default the End Effective date defined on the existing component to the new component.

Criteria

The Criteria subpanel is read-only. It displays the search criteria you have entered in the **Product Structures & Formulas** browse.

Note If you did not enter any search criteria in the **Product Structures & Formulas** browse, the Search Criteria field here displays "No criteria selected."

After you confirm the filter criteria you have set, click Search. The system then displays the identified product structures and formulas in the Product Structures & Formulas grid below.

Product Structures & Formulas

The Product Structures & Formulas panel lists all product structures and formulas that meet the filter criteria you specified in the Options panel.

The following fields display for each product structure and formula located:

- Product Structure
- Component
- Reference
- Start Effective
- End Effective
- Quantity Per
- Quantity per Batch
- UM
- Scrap %
- Lead Time Offset
- Forecast %
- Structure Type
- Sequence Number
- Option Group
- Process
- Operation

Check the listed product structures and formulas, and select some or all of them to submit.

Note All filtered product structures and formulas are selected by default. For any product structure or formula you do not want to include in the component change, clear the checkbox next to it to leave it unchanged.

The change applies only to the product structures and formulas you selected in this grid. After taking the action, you can open the **Product Structures & Formulas** view and verify the operation results in the Components panel.

Production Resource Setup

This screen consists of the data setup views related to production resources, including:

- **Departments**
- **Work Centers**
- **Production Lines**

Each of the preceding hybrid views is listed as a panel on the setup screen. You can click New, Edit, or Delete on a panel to directly maintain the data. You can also select Details to launch the specific hybrid view for .

Note You can enter Departments, Work Centers, or Production Lines in the search box to separately launch the **Departments**, **Work Centers**, or **Production Lines** hybrid view.

Departments

Note You can directly launch the **Departments** hybrid view by entering Departments in the search box; or access this view through **Production Resource Setup**.

A department groups similar work centers for purposes of reporting and accounting. Departments are like product lines because they are used to organize information on planning reports and to determine the GL accounts on transactions. Each department is set up with a fixed daily labor capacity and a set of GL accounts.

The department load reports in the Capacity Requirements Planning (CRP) module use the department labor capacity when calculating the total department capacity for a period of time. The labor capacity should correspond to the sum of the total capacities of all work centers in the department.

Department account codes are similar to the GL account codes for product lines. They are used:

- When reporting labor and downtime in production activity functions
- When backflushing inventory and closing the accounting for completed production orders

A department code is independent of the GL accounts, sub-accounts, and cost centers defined for it. In the General Ledger module, cost center codes are often used to organize transactions by department. However, you do not have to use the same code for the cost center and department.

The table below lists the accounts for a department, the account type, and the transactions where the account is used. All department accounts must be of GL type Standard.

Account	Type	Use
Cost of Production	Expense	Non-Prod Labor, SFC Transfer
Labor (Absorbed)	Expense	SFC, Repetitive, PO Close
Burden (Absorbed)	Expense	SFC, Repetitive, PO Close
Labor Usage Variance	Expense	SFC, Repetitive
Labor Rate Variance	Expense	SFC, Repetitive, PO Receipt
Burden Usage Variance	Expense	SFC, Repetitive
Burden Rate Variance	Expense	SFC, Repetitive, PO Receipt

You can use **Departments** to set up departments. At least one department must be defined before you can set up work centers or routings.

You can select New to set up a new department. You can select an existing department record in the grid, and click Edit or Delete to modify or remove it. You can also select Details to launch the **Departments** hybrid view for further .

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the department you are working on, including Department and Labor Capacity. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel contains the following fields:

Department

Enter a code that identifies a department.

Department codes identify major groupings of manufacturing work centers, in your own facility or at outside suppliers.

Every work center or machine should be assigned to a department, primarily for planning and accounting (blank is allowed but not

recommended). Usually, the grouping is made by similarities of functions or processes.

Departments associate general ledger (GL) accounts with groups of work centers and machines.

Departments are used throughout the system for selecting and reporting information, such as production status, dispatching, capacity planning, and production history reports.

For example, departments group work centers performing common functions. In a job shop, there can be one department for lathes and another for welding. Or, departments can group work centers based on shared processes, creating departments for each work cell. Both methods allow you to review capacity load in a meaningful way.

At least one department should be set up for subcontracting. This allows you to add a group of work centers, one for each supplier who provides outside processing. Dispatch lists, capacity plans, and production reports can then be listed for subcontractors.

When you are setting up your departments, remember that you can select reports for ranges of department codes. You may want to set up similar types of departments all starting with the same character so that they can be easily aggregated on reports—for example, all subcontract departments start with 9.

Note Departments are alphanumeric and sorted in alphanumeric sequence, even if you use numbers for departments. Departments 1, 2, 3, ..., 10, 11, ..., 20, 21, ..., will sort in the sequence: 1, 10, 11, ..., 2, 20, 21, ..., 3, ... Not what you may want.

Description

Enter a description of the department code, usually indicating the type of work centers it groups.

The department description prints on most reports beside the department code.

Labor Capacity

Enter the total number of hours of work which can be performed within a department per day. Day length is defined in the shop calendar for each work center/machine.

The default is 0 (zero).

Labor capacity prints on Capacity Requirements Planning reports. Scheduled load is compared to department capacity to project under- and over-load situations.

Department capacity is not calculated by the system or changed when you add or change work centers in the department.

The department labor capacity is entered manually as the sum of the capacities of all work centers and machines in the department.

Defaults

The Default Sub-Account and Default Cost Center fields let you enter the same sub-account code and cost center code for all accounts in a department.

The Apply button next to the Default Sub-Account or Default Cost Center field determines whether the value of Default Sub-Account or Default Cost Center is applied to all accounts in this program. After you set the Default Sub-Account field (or the Default Cost Center field):

- If you select Apply, the system overrides all sub-account codes (or cost center codes) with the value you entered in Default Sub-Account (or Default Cost Center).
- If you do not select Apply, the system ignores the value you entered in Default Sub-Account (or Default Cost Center).

Note You can manually change the sub-account code or cost center code in the Accounts panel even after you have set the Default Sub-Account or Default Cost Center field and selected Apply.

Default Sub-Account

Enter a valid sub-account code to be used as the default sub-account for all accounts in this program. Use this feature to quickly change only one part of an account number.

Note The use of this field is determined by whether you select Apply.

Default Cost Center

Enter a valid cost center code to be used as the default cost center for all accounts in this program. Use this feature to quickly change only one part of an account number.

Note The use of this field is determined by whether you select Apply.

Accounts

This panel lists the following accounts in the department:

Cost of Production

Enter the general ledger (GL) account code used to track indirect production costs for this department. This must be a valid, active account of type Standard.

Reported labor that is not associated with a repetitive schedule or a production order updates the Cost of Production (COP) account. This includes costs for preventive , cleanup, or meetings. Material issues or subcontract receipts not associated with a manufacturing order also update this account.

Receiving subcontract purchase orders debits the COP account for the subcontract item product line; however, when you receive finished subcontract items, inventory is updated. When a production order ID is associated with the purchase order, this posting is subsequently reversed and the purchase order price is posted to Work in Process (WIP). When production order ID is blank for the purchase order, the subcontract price remains in COP.

This field defaults from **Base Control** > Domain Accounts panel.

The department COP account is used for repetitive downtime and shop floor nonproductive labor-feedback transactions. The site or product line COP account is used for unplanned issues and subcontract receipts.

Reporting nonproductive labor or downtime at any work center in this department creates a GL transaction that:

- Debits the COP account for the standard labor and burden costs multiplied by the labor hours reported
- Credits Labor and burden accounts

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Labor

Enter the general ledger (GL) account code used to track accrued labor costs for this department. This must be a valid, active account of type Standard.

When labor is reported in Repetitive and Shop Floor Control, actual labor costs are posted as a credit to the Labor account as:

Actual hours reported * Employee's actual pay rate

Overtime and shift differentials are included, if reported. If the employee pay rate is not available, the work-center setup and labor rates are used.

When the manufacturing order is closed, both labor rate and usage variances can be calculated.

- Rate variance is the difference in labor costs due to the difference between the employee's actual pay rate, including overtime and shift differential if reported, and the standard setup and labor rates at the work center. Rate variance can only be calculated if the employee's actual rate is stored in the employee master table.
- Usage variance is the difference in labor costs due to the difference between the actual hours reported and the standard hours earned (often called an efficiency variance).

Labor is not maintained separately by site. If you need different accounts by site, define a different group of department codes for each site.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Burden

Enter the general ledger (GL) account code used to track accrued burden costs for work centers in this department. This must be a valid, active account of type Standard.

When labor is reported in Repetitive and Shop Floor Control, actual labor burden costs are posted to the Burden account using the burden rates at the work center reported.

Actual burden cost is calculated as:

- The actual hours reported * the machine burden rate
- Plus the actual hours reported * the labor burden rate

- Plus the actual labor cost * the labor burden percentage

When the manufacturing order is closed, both burden rate and usage variances can be calculated.

- Rate variance is the difference in burden costs due to the difference between the employee's actual pay rate including overtime and shift differential (if reported) and the standard labor rate at the work center reported.
- Usage variance is the difference in burden costs due to the difference between the actual hours reported and the standard hours earned (often called an efficiency variance).

Labor reporting functions post burden accrual or absorption amounts. Actual burden expenses are recognized by entering manual GL transactions.

Burden is not maintained separately by site. If you need different accounts by site, define a different group of department codes for each site.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Labor Usage Variance

Enter the general ledger (GL) account code used to track labor usage variances for work centers in this department. This must be a valid, active account of type Standard.

When labor is reported in Repetitive and Shop Floor Control, actual labor costs are posted as a credit to the Labor account as:

Actual hours reported * Employee's actual pay rate

Overtime and shift differentials are included, if reported. If the employee pay rate is not available, the work-center setup and labor rates are used.

When the manufacturing order is closed, both labor rate and usage variances can be calculated.

- Rate variance is the difference in labor costs due to the difference between the employee's actual pay rate, including overtime and shift differential if reported, and the standard setup and labor rates at the work center. Rate variance is calculated only if the employee's actual rate is stored in the employee master table.

- Usage variance is the difference in labor costs due to the difference between the actual hours reported and the standard hours earned (often called an efficiency variance).

Labor Usage Variance is not maintained separately by site. If you need different accounts by site, define a different group of department codes for each site.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Labor Rate Variance

Enter the general ledger (GL) account code used to track labor rate variances for work centers in this department. This must be a valid, active account of type Standard.

When labor is reported in Repetitive and Shop Floor Control, actual labor costs are posted as a credit to the Labor account as:

Actual hours reported * Employee's actual pay rate

Overtime and shift differentials are included, if reported. If the employee pay rate is not available, the setup and labor rates at that work center are used.

When the manufacturing order is closed, both labor rate and usage variances can be calculated.

- Rate variance is the difference in labor costs due to the difference between the employee's actual pay rate, including overtime and shift differential if reported, and the standard setup and labor rates at the work center. Rate variance is calculated only if the employee's actual rate is stored in the employee master table.
- Usage variance is the difference in labor costs due to the difference between the actual hours reported and the standard hours earned (often called an efficiency variance).

Labor Rate Variance is not maintained separately by site. If you need different accounts by site, define a different group of department codes for each site.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all

GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Burden Usage Variance

Enter the general ledger (GL) account code used to track burden usage variance for work centers in this department. This must be a valid, active account of type Standard.

When labor is reported in Repetitive and Shop Floor Control, actual labor burden costs are posted to the Burden account using the burden rates at the work center reported.

Actual burden cost is calculated as:

- The actual hours reported * the machine burden rate
- Plus the actual hours reported * the labor burden rate
- Plus the actual labor cost * the labor burden percentage

When the manufacturing order is closed, both burden rate and usage variances can be calculated.

- Rate variance is the difference in burden costs due to the difference between the employee's actual pay rate including overtime and shift differential (if reported) and the standard labor rate at the work center reported.
- Usage variance is the difference in burden costs due to the difference between the actual hours reported and the standard hours earned (often called an efficiency variance).

Labor reporting functions post burden accrual or absorption amounts. Actual burden expenses are recognized by entering manual GL transactions.

Burden Usage Variance is not maintained separately by site. If you need different accounts by site, define a different group of department codes for each site.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Burden Rate Variance

Enter the general ledger (GL) account code used to track burden rate variance for work centers in this department. This must be a valid, active account of type Standard.

When labor is reported in Repetitive and Shop Floor Control, actual labor burden costs are posted to the Burden account using the burden rates at the work center reported.

Actual burden cost is calculated as:

- The actual hours reported * the machine burden rate
- Plus the actual hours reported * the labor burden rate
- Plus the actual labor cost * the labor burden percentage

When the manufacturing order is closed, both burden rate and usage variances can be calculated.

- Rate variance is the difference in burden costs due to the difference between the employee's actual pay rate including overtime and shift differential (if reported) and the standard labor rate at the work center reported.
- Usage variance is the difference in burden costs due to the difference between the actual hours reported and the standard hours earned (often called an efficiency variance).

Labor reporting functions post burden accrual or absorption amounts. Actual burden expenses are recognized by entering manual GL transactions.

Burden Rate Variance is not maintained separately by site. If you need different accounts by site, define a different group of department codes for each site.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Work Centers

Note You can directly launch the **Work Centers** hybrid view by entering Work Centers in the search box; or access this view through **Production Resource Setup**.

A work center is a machine, a group of machines, or a work cell on a production line at a site, or at a site that can perform manufacturing operations. Alternatively, a work center can be a subcontract supplier. You can use **Work Centers** to set up a work center for:

- A work center, cell, or machine on the shop floor
- A supplier that can provide a subcontract service

You define a work center for each physical work center, on every production line, at every site. You can define an inventory backflush location on each work center.

For work centers with inventory, the best practice is to define a unique work center for them for each production line and site. This is not required for work centers that do not have inventory.

Work centers are the basic unit for operation scheduling and Capacity Requirements Planning (CRP). Depending on how you plan and schedule work, you can set up work centers for an individual machine or for groups of similar machines. If, for example, there are separate machines for polishing plastic lenses and polishing glass lenses, they would be set up as separate work centers. The system uses work centers for scheduling, planning, and determining costs for GL transactions.

A work center and a machine code identify a work center. Machine can be left blank. Specify a machine only if there is more than one machine in the work center and they cannot be used interchangeably (that is, each machine is different or dedicated to different items).

You can select New to create a record. You can select an existing record in the grid, and click Edit or Delete to modify or remove the record. You can also select Details to launch the **Work Centers** hybrid view for further .

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the work center you are working on, including Work Center and Department. These fields are read-only and stay in view even when you scroll down the page.

Note If you have defined the Machine code for the work center, the Machine code is also displayed in this panel, next to the work center code.

Main

The Main panel lists the following fields:

Work Center

Enter a code to identify the work center.

Work Center cannot be left blank.

The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Work centers are used throughout the system for planning and reporting. Each operation must reference a work center. For manufacturing routing and processes, this determines the cost of the operation and is used to calculate product costs and lead time.

Most reports and inquiries can be selected and sorted by work center, in particular, dispatch lists and capacity planning reports.

At least one department must be defined before you can enter a work center. Then you can subdivide each department into logical work centers. A work center is a specific production unit within a department consisting of one or more people and one or more machines.

Set up one work center code for each supplier providing outside processing for subcontract operations.

Note Work center codes are alphanumeric and sorted in alphanumeric sequence, even if you use numbers for work centers. Work centers 1, 2, 3, ..., 10, 11, ..., 20, 21, ..., will sort in the sequence: 1, 10, 11, ..., 2, 20, 21, ..., 3, ... Not what you may want.

Machine

Enter a machine code, or leave this field blank when only one type of machine is in the work center. If there are multiple machine types or models, set up a different record for each machine, using the same work center code. The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control.

Where there is more than one person or machine in a work center, can they be used interchangeably? With two identical paint bays, you could schedule a paint operation at either one. The paint time would be the same. You could set this up as one work center code and leave machine code blank.

However, two CNC machines, one old and one new, may not have the same operating characteristics and perhaps may not be used interchangeably. Work scheduled on one may not be easily changed over to another. Work centers which consist of several different machines are normally set up using a common work center code and different machine codes.

Description

Optionally, enter a description of the work center and machine code, which together make up the basic production unit.

Department

Enter a code that identifies the department this work center belongs to.

Department codes identify major groupings of manufacturing work centers, in your own facility or at outside suppliers.

Every work center or machine should be assigned to a department, primarily for planning and accounting (blank is allowed but not recommended). Usually, the grouping is made by similarities of functions or processes.

Auto Firm

Select this option to have the system automatically firm orders scheduled on this production line using Auto Firm Planned Orders. Auto Firm Planned Orders firms planned orders for either production lines or work centers for a specific horizon or a range of dates.

Last Auto Firm

Specify a date of the last auto-firm by selecting a date from the calendar.

Queue Time

Set the standard queue time that a job normally spends waiting at this work center before it is set up and processed.

This value displays as the default whenever you enter a standard operation, routing operation, or process operation which references this work center. It can be changed.

Total manufacturing lead time includes queue, setup, run, wait, and move time. Lead time is used for operation scheduling and capacity requirements planning.

Queue time is independent of order quantity and can be compressed in past due situations. Backward scheduling algorithms look at the order due date and work backward to determine the scheduled start date. If this start date is before today, you may want to reschedule allowing for just a specified percentage of (or no) queue time.

When scheduling operations, the system looks at the shop calendar for the work center to determine how many hours are available for queue time in each calendar period.

Wait Time

Enter the standard wait time that a job normally spends waiting at this work center after processing has been completed.

This value displays as the default whenever you enter a standard operation, routing operation, or process operation which references this work center. It can be changed.

Total manufacturing lead time includes queue, setup, run, wait, and move time. Lead time is used for operation scheduling and capacity requirements planning.

Wait time is independent of order quantity. An order must wait at least this long before it can go on to the next operation and it cannot be skipped in past due situations: wait time may be required for drying, cooling, aging, or curing.

Wait time is not affected by the shop calendar. If the factory is shut, this type of process continues.

Scheduler

A scheduler is a person responsible for scheduling the work center.

Enter a scheduler code or click the look-up to open the **Code Master** view and select an existing code. You can also define a new one in **Generalized Codes** .

Machines per Operation

Enter the number of machines at this work center that can work at the same time to process a given operation. The default is 1.

This value displays as the default when you enter a standard operation, routing operation, or process operation that references this work center. It can be changed.

The Machines per Operation field affects scheduling of operations that occur at this work center machine. During scheduling, the system uses the operation run time divided by the Machines per Operation.

You can also use this field to indicate multiple operators on one machine.

Setup Crew

Set the number of people normally required to set up this work center. The default is 0 (zero).

This field in considered in labor cost calculations. Update this value before running any routing cost roll-ups and production reporting.

Note If you enter 0 in this field, do not enable the Include Setup Crew checkbox in Costing Control.

Run Crew

Set the number of people normally required to run this work center. The default is 1.

This field in considered in labor cost calculations. Update this value before running any routing cost roll-ups and production reporting.

Note If you enter 0 in this field, do not enable the Include Run Crew checkbox in Costing Control.

Machines

Set the number of machines (or people) in this work center. The default is 1.

The total capacity for a work center is calculated by multiplying the number of working hours, defined in the shop calendar for each work center, by the number of machines.

If some of the machines in this work center can operate at the same time, you should enter that number in the Machines per Operation field.

Backflush Location

Enter the inventory location used to issue materials from when performing backflush transactions for the production line.

Note This field is displayed when Production Orders is in use.

Transaction Quantity Method

This field determines whether to use Qty Completed or Qty Processed in Operation Activity Transaction and Production Order Receipt.

Note This field is displayed when Production Orders is in use.

The value of Transaction Quantity Method defaults from the Quantity Open Method value in **Production Control**.

You can choose one from the following:

- Blank

  When you leave it blank, the system uses the method set in **Production Lines** and applies the method to Operation Activity Transaction and Production Order Receipt.

- Quantity Processed

  The system allows you to enter Qty Processed rather than Qty Completed in Operation Activity Transaction and Production Order Receipt.

- Quantity Completed

The system allows you to enter Qty Completed rather than Qty Processed in Operation Activity Transaction and Production Order Receipt.

The Transaction Quantity Method value in **Work Centers** has a higher priority over the value set in **Production Lines**. If there is no production line defined on a production order and no Transaction Quantity Method defined on the work center, the system uses the Quantity Open Method value in **Production Control** as the transaction quantity method.

Supplier

Specify a code that identifies a supplier. You can enter one, or click the look-up to open the **Suppliers** view and select an existing supplier. You can also click New in **Suppliers** to customize one.

Note This field is displayed when Production Orders is in use.

Rates

This sub-panel displays the following rates:

Setup Rate

Enter the average labor rate paid per labor hour to set up this work center.

This value is used by item cost calculations, and by labor feedback functions to calculate and post actual costs and variances. It applies to all operations carried out at this work center and cannot be changed for individual operations.

If no setup labor is reported for an operation, the system assumes that standard setup was completed and not reported; setup is posted at standard during operation close or Production Order Accounting Close.

The setup portion of standard labor cost is calculated by multiplying the standard operation setup time by the setup rate. (Setup time is the time it takes to set up all machines. Machines/operation is not considered here.) This cost is divided by the item order quantity. Labor burden percentage is applied to both setup and run cost, and added to standard burden cost.

Actual setup cost is calculated by multiplying the actual setup time by the setup rate for the work center at which the setup was reported.

Any difference is posted to variance. Rate variance accounts for different standard rates between work centers. Usage variance accounts for different setup and run times.

Labor Rate

Enter the average labor rate paid per labor hour to run this work center.

This value is used by item cost calculations, and by labor feedback functions to calculate and post actual costs and variances. It applies to

all operations carried out at this work center and cannot be changed for individual operations.

If no setup labor is reported for an operation, the system assumes that standard setup was completed and not reported; setup is posted at standard during operation close or Production Order Accounting Close.

The run portion of standard labor cost is calculated by multiplying the standard operation run time by the run rate. Labor burden percentage is applied to both setup and run cost, and added to standard burden cost.

Actual run cost is calculated by multiplying the actual run time by the run rate for the work center at which the run time was reported.

Any difference is posted to variance. Rate variance accounts for different standard rates between work centers. Usage variance accounts for different setup and run times.

Machine Burden Rate

Enter the burden rate per hour applicable to machine run time and setup at this work center.

This value is used by item cost calculations, and by labor feedback functions to calculate and post actual costs and variances. It applies to all operations carried out at this work center and cannot be changed for individual operations.

Standard machine burden cost at the operation is calculated as:

*(Setup time / Order quantity * Routing machines per op + Run time) * WC machine burden rate*

If yield is included in the standard cost, machine burden reflects the cumulative yield from all operations.

Any difference is posted to variance. Rate variance accounts for different standard rates between work centers. Usage variance accounts for different setup and run times.

Labor Burden Rate

Enter the labor burden rate per hour applicable to both setup and run time at this work center.

This value is used by item cost calculations, and by labor feedback functions to calculate and post actual costs and variances. It applies to all operations carried out at this work center and cannot be changed for individual operations.

The labor burden portion of standard burden cost is calculated using the labor burden rate and labor burden percentage. The labor burden rate is multiplied by the operation setup and run times. The labor

burden percentage is multiplied by the total labor cost for operation setup and run.

Actual labor burden is calculated using the actual hours reported and the burden rates and labor costs from the work center at which the operation was reported.

Any difference is posted to variance. Rate variance accounts for different standard rates between work centers. Usage variance accounts for different setup and run times.

Labor Burden Percent

Enter the labor burden percentage applicable to the total labor cost at this work center.

This value is used by item cost calculations, and by labor feedback functions to calculate and post actual costs and variances. It applies to all operations carried out at this work center and cannot be changed for individual operations.

The labor burden portion of standard burden cost is calculated using the labor burden rate and labor burden percentage. The labor burden rate is multiplied by the operation setup and run times. The labor burden percentage is multiplied by the total labor cost for operation setup and run.

Actual labor burden is calculated using the actual hours reported and the burden rates and labor costs from the work center at which the operation was reported.

Any difference is posted to variance. Rate variance accounts for different standard rates between work centers. Usage variance accounts for different setup and run times.

Time Period

The Time Period sub-panel enables you to set the horizon end for the work center.

Horizon End

Enter a period number when specifying either Days, Weeks, or Months as the unit, so as to determine the horizon end for this work center. For example, you can set Horizon End to 5 Days.

Calculated End

Display the date calculated based on Horizon End.

The calculated end date is read-only. The system calculates the end date based on today's date and the value of Horizon End.

Assume that today's date is September 9, 2020. If you set Horizon End to 5 Days, the Calculated End date is September 14, 2020. If you set Horizon End to 4 Weeks, then the Calculated End date is September

20, 2020. If you set Horizon End to 3 Months, the Calculated End date is December 31, 2020.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Report Nonproductive Labor Action

AUX provides several ways for you to launch the **Report Nonproductive Labor** window; you can then report non-productive labor for an employee, or down time for a work center:

- Select a production operation record in the **Production Operations Reporting** browse, and then choose Actions > *(Individual)* Report Nonproductive Labor.
- Select a work center record in the **Work Centers** view, and then choose Actions > *(Individual)* Report Nonproductive Labor.
- Select a work center record in the Work Centers panel of the **Production Resource Setup** view, and then choose Actions > *(Individual)* Report Nonproductive Labor.

For details, see Report Nonproductive Labor Action on page 3732.

Production Lines

A production line is defined at a site by specifying the hourly production rate for items produced on that line during a normal shift. One or more items can be made on the same production line, and the same item can be produced on several production lines, all at the same or at different production rates. Optionally, orders for an item can be allocated to several different production lines.

The Production Lines default view lists all the production lines with details displayed in columns.

You can create, modify, or delete production lines.

Creating Production Lines

To create a production line:

1. In the Production Lines default view, click New.

   The system opens a new Production Line form.

2. On the Main panel, record information about the production line, including the site, standard production rate, scheduler, and other data.
3. On the Line Items panel, specify attributes and options for specific items that you manufacture on the production line.

a. Click New to add an item to the production line.
b. In the Line Items grid, specify the item, start effective date, and other attributes, and click Done.
c. To quickly edit the item production line in the grid, select the specific record and click Edit. After you edit the information, click Done.
d. To add details of the production line item, click Details to open the Item Production Line Details page. Select the specific record from the browse, and then edit the details.

Modifying Production Lines

To modify an existing production line:

1. In the Production Lines default view, use the Search function to filter out the production line that you want to edit.
2. Open the Production Line record, by double-clicking the record or by clicking Edit.
3. On the Main panel, modify the standard production line data, as required.
4. Click the Line Items panel and modify the production line items in the grid.
5. On the Line Items panel, click Details to view and modify the details of each item on the production line.

Deleting Production Lines

To delete a production line:

1. In the Production Lines default view, use the Search function to filter out the production line that you want to delete.
2. Open the Production Line record, by double-clicking the record or by clicking Edit.
3. Click Delete.

Production Lines

Production Lines includes the following panels:

- Main
- Line Items

The Summary panel displays the production line name, as well as its site and planning units/hour.

Main

On the Main panel, record information about the production line, including the site, standard production rate, number of lines, duration buffer, standard setup time, and other data.

Site

Specify the site where this production line is located.

Production Line

Enter the name or code for this production line.

Description

Optionally, enter a brief description of this production line.

Planning Production Rate

Enter the standard production rate on this line. The production rate for an item on a production line is equal to that of the operation with the lowest production rate. A production line is no faster than its slowest operation. The default is 0 (zero).

You can set Planning Production Rate either in hours per unit or in units per hour. That means you can either enter the time, in decimal hours, required to process one unit at this operation; or set this field to the number of units to be processed in one hour at this operation.

Note The unit of measure (UM) you choose for the Planning Production Rate field on the Main panel of **Production Lines**, either Hour or Units/Hour, defaults to this field on the Line Items panel of **Production Lines** as well as this field on the Main panel of **Item Production Lines**. The UM of the Planning Production Rate field on **Item Production Lines** is disabled. If you want to set the Planning Production Rate in another UM, you need to first change the production rate UM for this production line in **Production Lines**, and then click Details on the Line Items panel to launch the **Item Production Lines** view for further .

Ideal Production Rate

Enter the maximum production rate at which the line could run. The default is 0 (zero).

You can set Ideal Production Rate either in hours per unit or in units per hour. That means you can either enter the ideal time, in decimal hours, required to complete one unit at this operation; or set this field to the ideal number of units to be completed in one hour on this production line.

This field is not used for planning and scheduling, and its use is limited to one of the OEE sub-metrics called Performance. The Performance metric measures the actual run rate to this ideal run rate. Retain the default value if you do not want to use the metric.

Enable Run Size

Select this option to enable a link between the run crew size and the run rate. When selected, any modification to the run crew size on

the production order causes the system to calculate the run crew productivity value.

Number of Lines

Enter the number of resources this production line represents. Many companies schedule multiple resources at the same time. The default is 1 (one). The number you enter cannot be 0 (zero).

Duration Buffer

Enter the average number of days, hours, minutes, and seconds required to process a production order in addition to run and setup time. The default is 0 (zero).

Setup Time

Optionally, enter the time, in days, hours, minutes, and seconds, required to prepare the production line for manufacture, independent of order quantity. The default is 0 (zero).

Backflush Location

Enter the inventory location used to issue materials from when performing backflush transactions for the production line.

Transaction Quantity Method

This field determines whether to use Qty Completed or Qty Processed in Operation Activity Transaction and Production Order Receipt.

The value of Transaction Quantity Method defaults from the Quantity Open Method value in **Production Control**; and the site exception in **Production Control** has a higher priority.

You can choose one from the following:

- Quantity Processed

  The system then allows you to enter Qty Processed rather than Qty Completed in Operation Activity Transaction and Production Order Receipt.

- Quantity Completed

  The system then allows you to enter Qty Completed rather than Qty Processed in Operation Activity Transaction and Production Order Receipt.

The Transaction Quantity Method value in **Work Centers** has a higher priority over the value set in **Production Lines**. If there is no production line defined on a production order and no Transaction Quantity Method defined on the work center, the system uses the Quantity Open Method value in **Production Control** as the transaction quantity method.

Scheduling

This sub-panel allows you to set parameters for scheduling.

Auto Firm

Select this option to have the system automatically firm orders scheduled on this production line.

Last Auto Firm

Select from the calendar a date of the last auto-firm by clicking the calendar icon.

Scheduler

Enter a valid user name specified in **Users** for the person responsible for scheduling the production line.

Note In Generalized Codes, select *scheduler* for Field Name.

Flex Factor

Enter a value to inflate or deflate the capacity of the production line. The default is 100%. The value you enter must be larger than 0 (zero).

This field is used for calculating the production line capacity according to the following formula:

*Production line capacity = Capacity defined for the day on calendar * Flex Factor*

Currently, the setting of Flex Factor only affects the capacity calculations for **Production Scheduling Automation**.

Leveling Code

Specify a leveling code to associate it to the production line. The field is left blank by default.

You can select an existing code in **Leveling Codes**. You can also select New to customize one.

Minimum Interval

Optionally enter the minimum every-part-every interval (EPEI) for the production line.

This field is used for you to maintain the minimum EPEI for non-Kanban items. The unit is hour and the default is 0 (zero).

The EPEI is the minimum time a process needs to make all the items it produces based on average demand. Specify a minimum item EPEI, for example, when you never want to set up the machines to make a given item more than once every three hours. If the calculated process EPEI is less than the specified minimum item EPEI, the system uses the minimum value instead.

Time Period

Horizon End

Enter the number of periods and specify either Day, Week, or Month as the horizon end for this production line.

The system calculates the end date based on the period and period number and displays it in the Calculated End field.

Calculated End

This field is read-only. The system calculates the end date based on the period and period number. For example, if Horizon End is set to *5* days, the Calculated End is five days starting with today.

Line Items

On the Line Items panel, you can specify attributes and options for specific items that you manufacture on the production line.

You can select New to create an item production line record. You can also select an existing record and select Edit or Delete to modify or remove it, or click Details to launch the **Item Production Lines** view for further .

Note Base process and co/by-product items are supported. When you add a base process item to a production line, all co/by-products in the base process structure are automatically added to this production line. When you add a co-product to a production line, the system automatically adds all co/by-products in the base process structure that is determined based on the BOM code you entered. When you add a by-product to a production line, the system treats it as a regular item. For details, see Item Production Lines on page 2512.

Item

Enter the item being manufactured, either a finished product or an intermediate product or subassembly. The item can be a co-product/by-product or base process item.

Description 1

This field is read-only and displays the primary item description set in **Items**.

Description 2

This field is read-only and displays the second description line set in **Items** for extra or supplementary information on the item.

Start Effective

Click the calendar icon to select the start date from which this item becomes effective for the current production line.

Planning Production Rate

Enter the production rate for this specific item on the current production line. The default is 0 (zero).

You can set Planning Production Rate either in hours per unit or in units per hour. That means you can either enter the time, in decimal hours, required to process one unit at this operation; or set this field to the number of units to be processed in one hour at this operation.

When the production rate for the item is 0 (zero), the system uses the standard production rate of the current production line.

Note The unit of measure (UM) you choose for the Planning Production Rate field on the Main panel of **Production Lines**, either Hour or Units/Hour, defaults to this field on the Line Items panel of **Production Lines** as well as this field on the Main panel of **Item Production Lines**. The UM of the Planning Production Rate field on **Item Production Lines** is disabled. If you want to change the production rate UM for a specific item on a production line, you need to first change the production rate UM for this production line in **Production Lines**, and then click Details on the Line Items panel to launch the **Item Production Lines** view for further .

Number of Lines

Enter the number of resources this production line represents. Many companies schedule multiple resources at the same time. The default is 1 (one). The number you enter cannot be 0 (zero).

Setup Time

Optionally, enter the time, in days, hours, minutes, and seconds, required to prepare the production line to manufacture this item, independent of order quantity. The default is from the production line setup time.

Setup Crew

Enter the code that identifies the crew that typically sets up the production line for this item.

No scheduling or cost calculations use the setup crew and run crew values.

Setup Crew Size

Enter the number of people in the setup crew.

Run Crew

Enter the code that identifies the crew that typically runs the production line for this item.

No scheduling or cost calculations use the setup crew and run crew values.

Run Crew Size

Enter the number of people in the run crew.

No scheduling or cost calculations use the setup crew and run crew values.

Routing

Enter a valid code that identifies the routing or process used to produce this item on this production line. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system accesses the routing or process with a routing code equal to the item number.

BOM/Formula

Enter a valid BOM code for the product structure or formula used with the routing or process to produce the item on this production line.

This field can be left blank. When blank, the system accesses the product structure or formula with a BOM code equal to the item number.

Tooling

Enter a valid code for the tool that the run crew typically uses when this item is produced on this production line.

Run Sequence 1

Enter the code for the primary run sequence of the item.

The run sequence determines the priorities of items during leveling. The run sequence of the item is defined in the Run Sequence 1 and Run Sequence 2 fields in **Production Lines**. Even if the item is a Kanban item, the system still uses the run sequences defined for it on the production line to determine the sequence when loading items into the schedule. For example, items 01010 and 01020 are defined to produce on the same production line. Orders for both items have been planned by **Production Scheduling Automation** and are due on the same date. In addition, the Run Sequence 1 field for item 01020 is 1 and that for item 01010 is 2. In this case, the system schedules item 01020 and then item 01010 on the production line. If the Run Sequence 1 field is set to be the same for both items, the systems then checks the Run Sequence 2 field to determine which order to schedule first. If no run sequence is found or both Run Sequence 1 and Run Sequence 2 are the same for the items, the system schedules the items according to their item numbers.

Run Sequence 2

Enter the code for the secondary run sequence of the item.

Minimum Interval

Optionally enter the minimum every-part-every interval (EPEI) for this item.

This field is used for you to maintain the minimum EPEI for non-Kanban items. The unit is hour and the default is 0 (zero).

The EPEI is the minimum time a process needs to make all the items it produces based on average demand. Specify a minimum item EPEI, for example, when you never want to set up the machines to make a given item more than once every three hours. If the calculated process EPEI is less than the specified minimum item EPEI, the system uses the minimum value instead.

Item Production Lines

You can access this view through the search field. In this stand-alone **Item Production Lines** view, you can edit and delete existing items, but are not allowed to add items to the specific production line.

Alternatively, you can access **Item Production Lines** from the Line Items panel in the **Production Lines** view. In this case, New is also available in the **Item Production Lines** view, enabling you to add more items to the production line.

The **Item Production Lines** view includes the following panels:

- Main
- Line Allocation
- Notes

The Summary panel displays the production line name, as well as its site and the item to manufacture on it.

Main

On the Main panel, specify attributes and options for specific items that you want to manufacture on the production line, including the item code, start effective date, planned production rate, number of lines, setup time, minimum interval, and other data.

Item

Enter the item being manufactured, either a finished product or an intermediate product or sub-assembly. The item can be a co-product/by-product or base process item.

When you add a base process item to a production line, all co/by-products in the base process structure are automatically added to this production line. When you add a co-product to a production line, the system automatically adds all co/by-products in the base process structure that is determined based on the BOM code you entered.

When you add a by-product to a production line, the system treats it as a regular item.

Note If an item is defined as a co-product in any base process, the BOM code on the Item Production Line cannot be a regular BOM code or blank. In addition, all fields except for Item, Start Effective, and BOM on the Item Production Line are disabled.

- When a base process or co-product item is added:
  - All of its co/by-products are automatically added and set to the same Start Date and BOM/Formula as the base process.
  - If there is any co/by-product item already on the production line with the same Start Date, the system does not add the specific co/by-product repeatedly.
  - If there is any co/by-product item in the product structure already expired, the system does not add the specific co/by-product.
  - The system creates line allocations for the base process or by-product item using the logic for regular items, but does not create line allocations for any of the co-products.
- When a by-product item is added:
  - The system treats it as a regular item and creates line allocations for this by-product item.
- When a base process item is removed:
  - All of its co/by-products with the same Start Date are removed.
  - If there is any co/by-product item defined on another base process structure and that base process is still on the production line with the same start date, then this specific co/by-product is not removed.
  - If the current base process item is the last one referring to the by-product, and the BOM/Formula on the by-product is a regular BOM/Formula, then this by-product is not removed.
  - If the current base process item is the last one referring to the by-product, and the BOM/Formula on the by-product is a base process, then the by-product is removed.
- When a by-product item is removed:
  - The system removes line allocations for the by-product item.
- When a co-product item is removed:
  - The system displays an error message if a base process in which the co-product is included with the same Start Date is also on the production line. You need to remove the base process item from the production line.

Description 1

This field is read-only and displays the primary item description set in **Items**.

Description 2

This field is read-only and displays the second description line set in **Items** for extra or supplementary information on the item.

Start Effective Date

Select the calendar icon to specify the start date from which this item becomes effective for the current production line.

Planning Production Rate

Enter the production rate for this specific item on the current production line. The default is 0 (zero).

You can set Planning Production Rate either in hours per unit or in units per hour. That means you can either enter the time, in decimal hours, required to process one unit at this operation; or set this field to the number of units to be processed in one hour at this operation. You cannot change the UM of the Planning Production Rate field on **Item Production Lines**. If you want to change the Planning Production Rate UM for a specific item on a production line, you need to first change the production rate UM for this production line in **Production Lines**, and then click Details on the Line Items panel to launch the **Item Production Lines** view for further .

When the production rate for the item is 0 (zero), the system uses the standard production rate of the current production line.

Number of Lines

Enter the number of resources this production line represents. Many companies schedule multiple resources at the same time. The default is 1 (one). The number you enter cannot be 0 (zero).

Setup Time

Optionally, enter the time, in days, hours, minutes, and seconds, required to prepare the production line to manufacture this item, independent of order quantity. The default is from the production line setup time.

Primary Line

Select this checkbox to make the current production line serve as the primary line for the item.

This field is available only when Production Orders is not installed.

Setup Crew Size

Enter the number of people in the setup crew.

Run Crew

Enter the code that identifies the crew that typically runs the production line for this item.

No scheduling or cost calculations use the setup crew and run crew values.

Run Crew Size

Enter the number of people in the run crew.

No scheduling or cost calculations use the setup crew and run crew values.

Routing

Enter a valid code that identifies the routing or process used to produce this item on this production line. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system accesses the routing or process with a routing code equal to the item number.

BOM/Formula

Enter a valid BOM code for the product structure or formula used with the routing or process to produce the item on this production line.

This field can be left blank. When blank, the system accesses the product structure or formula with a BOM code equal to the item number.

When you modify the BOM/Formula of a co-product item, the BOM/Formula cannot be a regular BOM code or blank.

When you modify the BOM/Formula of a by-product item:

- If the new BOM/Formula code is a regular BOM code, the change is supported.
- If the new BOM/Formula code is a base process, the system first checks whether the new base process with the same Start Date is defined on the production line.

Tooling

Enter a valid code for the tool that the run crew typically uses when this item is produced on this production line.

Run Sequence 1

Enter the code for the primary run sequence of the item.

Run Sequence 2

Enter the code for the secondary run sequence of the item.

Minimum Interval

Optionally enter the minimum every-part-every interval (EPEI) for this item.

This field is used for you to maintain the minimum EPEI for non-Kanban items. The unit is hour and the default is 0 (zero).

The EPEI is the minimum time a process needs to make all the items it produces based on average demand. Specify a minimum item EPEI, for example, when you never want to set up the machines to make a given item more than once every three hours. If the calculated process EPEI is less than the specified minimum item EPEI, the system uses the minimum value instead.

Line Allocation

The Line Allocation panel enables you to set allocation percentages for the production lines on which an item could be manufactured.

You can add an item to a production line on the Line Items panel of **Production Lines**. Once the item production line record is created, the system automatically creates a production line allocation record for this item using the same start effective date. Then you can select the item production line record and select Details to launch the **Item Production Lines** view for further .

Alternatively, you can select New on the Line Allocation panel of **Item Production Lines** to manually add a production line allocation record.

Each production line allocation record has a unique start effective date, and the total percentage must be 100%.

When you select New on the Line Allocation panel and specify a start effective date, a production line allocation record is created, and the system lists all the production lines that are valid for the item starting from this date. Then you can adjust the allocation percentages for the lines as needed.

Note The start effective date you enter here cannot be earlier than the start effective date of the selected item production line record.

You can maintain line allocations for the base process and by-product items in the same way as regular items. However, you cannot create line allocations for co-product items. The Line Allocation grid is hidden for co-product items.

Production Line

This field is read-only and displays the production line code.

Description

This field is read-only and displays the description of the production line.

Percentage

You can modify the percentage for the production line as you want.

When adjusting allocation percentages, make sure that the total percentage of all the production lines listed in the production line allocation record is 100%.

You can select an existing production line allocation record on this panel and select Delete.

Note You are not allowed to delete system-created production line allocation records, that is, the production line allocation records automatically created by the system after you add item production line records. Such a production line allocation record has the same start effective date as its corresponding item production line record.

Notes

You can add, edit, or remove notes for the selected item production line record on this panel.

Page

Enter the page number for the note.

Note

Enter the note that you want to add to the current item production line.

Create Pack action

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the current item production line, including the production line, ID and item. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Production Line

Displays the production line where the job is run. Defaults from the row selected in Item Production Lines.

Item

Displays the item for which the system will create serials. Defaults from the row selected in Item Production Lines.

Site

Displays the site where the item is produced. Defaults from the row selected in Item Production Lines.

BOM Code

Displays the BOM/Formula used in production. Defaults from the row selected in Item Production Lines.

Origin/Destination Panel

Address

Enter the partner associated with the inventory transactions for which the serials are created.

For example, if you create a serial for items to be received, you can have a specific serial range defined for a specific supplier by entering the supplier in the Address field. If you create a serial for items to be shipped, you can have a specific serial range for a specific ship-to or sold-to by entering the ship-to or sold-to in the Address field. If you specify a supplier, ship-to, or sold-to, it must be an existing address or site.

Inventory Panel

Lot/Serial

Enter the lot/serial for the serial.

Reference

Enter the reference for the serial.

Pack Panel

Pack Code

Enter the pack code to which the system assigns serials. The default is from the lowest-level serialized pack of the BOP structure that is determined by item (BOM), site, address (blank), and transaction type (RCT-WO). This field is mandatory.

You can modify the pack code. An assembly pack code is allowed. Blank is allowed when serial control of the item is set to M in Items. When Pack Code is blank, the system considers it as item serialization. When this happens, the system ignores the pack quantity and UM.

In most cases, the pack code is the unit pack; however, if serial control of the unit pack is set to Never in Packaging Structures, the system looks for the upper level whose serial control is a value other than Never.

Note When determining the BOP code from item packaging records, the BOM has a higher priority than the item. This means that when alternate BOMs are in use, the system still follows the matching logic described in Item Packaging Assignments; however, BOM codes have a higher priority than items.

Number of Packs

Enter the number of packs you want the system to create. You cannot enter a negative number.

Pack Quantity

Enter the expected quantity that the pack holds. The default is from the quantity per of the lowest-level serialized pack of the BOP structure. You cannot enter a negative number.

When serial control of the unit pack is set to Never, the system multiplies the quantity per of each level whose serial control is set to Never; however, you can modify it.

Using Create Pack action

Use the Create Pack action to create serials based on item, site, and production line. Follow these steps to create a pack:

1. Go to **Item Production Lines**
2. Select the item production line and select **Actions > Create Pack**
3. Edit the applicable information.
4. Click **Submit**.

Routings & Processes

Understanding Routings

To manufacture an item or product, you must complete one or more activities or operations. The list of required operations is called a routing, which basically defines the process needed to produce the item or product.

If a product structure is the list of ingredients in a recipe, a routing is the directions. A routing consists of one or more operations — steps needed to make an item. Each operation is identified by a routing code and an operation number.

A routing is generally associated with some elements, such as work centers, machines, sequence of operations, and required tools.

A routing also provides manufacturing instructions, such as how long it takes to produce items, what quantities are produced and by whom, whether there are any interruptions to production, and so on.

In addition, a routing contains data used as a standard for evaluating production, operation times, yield percentages, the number of machines normally needed, and so on. The work center codes associated with routing operations link actual production results with capacity planning, cost accounting, and other programs.

Routings can be used in various scenarios such as:

- Calculating the cost of producing an item.
- Calculating the time it takes to manufacture an item.
- Scheduling operations for production orders and repetitive schedules.
- Calculating load in work centers.
- Printing routings for production orders.

Processes

When there is a product structure existing with the same name as the routing code, and the Formula flag is checked for this structure in **Product Structures & Formulas**, this routing is treated as a process. A process, like a routing, is a sequence of steps to follow in the production of an item. A process definition, however, defines its control information in terms of a batch quantity rather than a completed unit.

Alternate Routings

The routing code is typically the item number of the manufactured item, but routing codes and item numbers are entirely independent. This allows the same routing to be used for multiple items. One item can also be made using one of several routings.

You can assign approved alternate routings to items and sites when an item can be made different ways, using different operations, work centers, machines, and perhaps different components. Each of these is called an alternate.

Alternate routings are useful for managing variations in the manufacturing process of an item. For example, a substitute machine is used while the primary machine for a process is being repaired.

The **Routings & Processes** view allows you to create, modify, or delete routings and processes. It also enables you to define alternate routings or processes for items.

Note that you can also use **Alternate Routings & Processes** to define alternate routings or processes. For details, see Alternate Routings & Processes on page 2541.

Note Since processes are a type of routings, the term "routing" mentioned in this document refers to both the routing and the process unless otherwise specified.

Summary

The Summary panel displays key data about the routing you are working on, including Routing and Description. These fields are read-only and stay in view even when you scroll down the page.

Main

On the Main panel, add information about the routing, including the routing code and description.

Routing

Enter a code identifying the set of operations required to manufacture an item. For manufactured items, the system uses the routing to calculate product cost and plan for capacity.

Note

You can create a routing for any item; however, when the item is not manufactured, the routing information is not used for planning or in the cost roll-up functions.

Routing codes and item numbers are entirely independent. While you must attach one primary routing code to the item for costing and planning, any number of others can be set up and used as alternates. This lets you set up one routing to make multiple items or define an item with more than one routing.

You can assign a default routing code to an item on the main panel of **Items**. The system assumes the item number is the default routing if a routing code is not specified. Assign a routing code to an item at each

site on the Site Planning Exceptions sub-panel of **Items**, indicating how the item is normally made at that site.

You do not need to define routings for co-products because the system uses the routing associated with the base process.

Description

Optionally, enter a brief description of the routing.

Batch Quantity

A system-maintained field recording the normal batch quantity for an item.

This field is read-only and available only to processes. The Batch Quantity value for a process here defaults from the Batch Size value defined for the formula with the same name in **Product Structures & Formulas**. This field cannot be updated manually. You can use the Change Batch Quantity action in **Product Structures & Formulas** to change the value.

Operations

The Operations panel allows you to click New to create more operations for the routing, or select an existing operation record and click Edit or Delete to modify or remove it.

You can also click Details to open the **Routing Operations** hybrid view, and then set attributes and options for the operations involved in the routing. The **Routing Operations** hybrid view consists of the Main, Operation Time, Operation Options, Subcontract, Costing, Alternate Work Center Run Time, and Notes panels.

Note On the Alternate Work Center Run Time panel or the Notes panel, you can click New, Edit, or Delete to directly maintain records in the grid. You can also click Details above the grid to launch the corresponding hybrid view (**Alternate Work Center Run Time** or **Notes**) for .

Routings identify the work center where each operation is normally performed, but the work can be done at several work centers. You can define the work center where a routing operation is normally performed as well as its time data in the Main and Operation Time panels of **Routing Operations**. You can also go to the Alternate Work Center Run Time panel of **Routing Operations** to record alternate work center/machine combinations for the routing operation, and to specify the standard run time for each combination there.

Note The standard run time is expressed as either the number of units per hour that can be processed at this operation, or the time required to process one unit at this operation.

You can view the standard run time when determining which work center to use. Later, after production reporting, efficiency reports use the standard run time defined for the work center where the work was actually done rather than the standard run time for the work center identified on the routing.

Note The **Alternate Work Center Run Time** view provides the drill-down link feature. By clicking on the link icon located on the right side, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions. For example, you can launch the **Production Order Efficiency** browser to view the efficiency report.

Operation

Enter an operation sequence number to identify a step within this routing.

Each routing consists of a series of operations. Operation numbers must be unique within a routing. Routing operations are always printed in ascending sequence by operation; for example, operation 20 follows operation 10. QAD recommends that you number operations by 10s or 100s. In this way you can add new intermediate steps without renumbering the existing ones. For example, if you have operations 10, 20, and 30 and need to add another operation after operation 20, you can enter it as operation 25.

Routing operations are included when a production order is created and printed. An operation number is required for labor reporting.

Note

Deleting an operation from a routing does not change any existing orders that reference it. If you delete an operation from a routing, close any open cumulative orders using the routing. Otherwise, employees can report labor against the operation by manually entering the number.

Standard Operation

Enter a code identifying a standard operation defined in **Standard Operations**. A standard operation is common to several products or applicable to different routings in different operation sequences.

Standard operations act as templates and can help speed up entry of your routing operations by providing default information when you create a new routing operation. You can modify defaults as needed.

You can also reference standard operations directly on a production order.

Changing a standard operation does not automatically change the routings that reference it. You need to use the Routing Update function

to do this. Any production order routings referencing this standard operation must be changed manually to reflect the change.

After you set Standard Operation, values of the following fields default from this standard operation:

- Work Center
- Machine
- Overlap Units
- Setup Time
- Run Time
- Move Time
- Yield Percent
- Milestone Operation
- Subcontract Lead Time
- Tooling
- Inventory Value
- Subcontract Cost

Note

You can modify these values as needed to create the specific operation for this routing.

Work Center

Enter the code identifying the work center where this operation is normally performed. The work center and machine code together identify work center defaults. Work centers represent individual machines, groups of similar machines, or subcontract suppliers.

Work centers are used for manufacturing planning and reporting. Each operation must reference a work center, which determines the cost of the operation and is used to calculate product costs and lead time.

The work center and machine determine the default value for machines per operation, standard queue and wait time, and setup and run crew. You can change work center defaults as needed. Work center labor and burden rates apply to all operations at the work center and cannot be changed by operation.

Some reports and browses can be selected and sorted by work center, such as dispatch lists and capacity planning reports.

Note You can create alternate work center/machine combinations on the **Alternate Work Center Run Time** panel below. You can also set a standard Run Time for each alternate work center/machine combination there.

Machine

Enter the machine normally used for this operation. The work center and machine code together identify work center defaults.

You can uniquely identify a work center by using a work center code along with an optional machine code. You can leave Machine blank if only one type of machine is available in the work center. If there are multiple machine types or models, set up a different record for each machine, using the same work center ID.

When an operation can be performed on more than one machine, enter the preferred work center and machine on the standard routing. Define alternate routings for the other machines, specifying their lead time components, yields, and processing instructions. Set up work center routing standards for each alternate machine, defining the standard run rates to use for efficiency reporting.

After you set Work Center and Machine, the system defaults the values of the following fields from the Work Center and Machine combination:

- Machines per Operation
- Queue Time
- Wait Time
- Setup Crew
- Run Crew
- Supplier

Description

Enter a brief description of this manufacturing operation to include on reports, browses, and printed shop documents.

Description defaults from the standard operation, if specified.

Machines per Operation

Enter the number of machines that can process work at the same time at this operation. You can also use this field to indicate multiple operators on one machine.

This value defaults from the work center. You can modify it as needed. The number of machines per operation affects scheduling and cost. The system schedules operations by dividing run time by the number of machines.

Standard machine burden is calculated as:

*(((Setup time/Order quantity) * Routing machines per operations) + Run time) * Work center machine burden rate*

Start Date

Click the calendar icon to specify the first day this routing step is effective. Leave this field blank if the operation has no defined start date. Starting and ending effective dates are inclusive and cannot overlap.

Routing steps are typically effective over a defined period of time. When specified, the start date determines when this step should be included on the routing. You can use effective dates to phase in engineering changes and to maintain product history.

The system uses start and end dates to determine which routing information is effective on a specific date. You can generate many reports and browses for a specific effective date. This is useful for cost calculations, letting you change the routing effective in the future, and then evaluate the effect of the change.

End Date

Click the calendar icon to specify the last day this operation is effective. Leave this field blank if the operation has no defined end date. Starting and ending effective dates are inclusive and cannot overlap.

Setup Time

Enter the standard time, in decimal hours, required to prepare this work center to carry out this operation, independent of order quantity. This value defaults from the standard operation, if any.

Setup time is one component of the operation lead time. When scheduling production order operations, the system uses setup and run times to determine the operation duration. The inter-operation lead time is calculated based on the first operation's wait and move times and the following operation's queue time.

Run Time

You can set Run Time either in hours per unit or in units per hour. That means you can either enter the time, in decimal hours, required to process one unit at this operation; or set this field to the number of units to be processed in one hour at this operation.

This value defaults from the standard operation, if any.

Run time is one component of the operation lead time. When scheduling production order operations, the system uses setup and run times to determine the operation duration. The inter-operation lead time is calculated based on the first operation's wait and move times and the following operation's queue time.

Note This field is available only to routings. For processes, the system displays the Run Time per Batch field instead.

Run Time per Batch

This field displays for a process, instead of the Run Time field for a routing. You can enter the process operation run time in terms of the batch quantity for the item.

You can define Run Time per Batch only in unit of Hour, which means in time per batch.

Order Quantity

Displays the normal order quantity for this item. Generally, the value defaults from **Items**.

Subcontract Lead Time

Enter the average number of calendar days it normally takes a subcontractor to perform the operation. This value defaults from the standard operation, if specified, and is only needed for subcontract operations.

You should enter either subcontract cost and lead time (LT), or setup, run, and move time. Specifying both can overstate lead time and result in incorrect schedules. If you subcontract an operation sometimes and at other times complete it on site, set up an alternate routing rather than combining the information in one.

Routing Cost Roll-Up includes subcontract lead time when it calculates an item's manufacturing lead time. Subcontract lead time also influences scheduling for production order operations.

When scheduling production order operations, the system treats the Subcontract Lead Time as the calendar days needed between the operation Due Date and the Start Date. For example, if Subcontract Lead Time is two days and the Due Date is the tenth of a month, the Start Date would be the seventh because the two days between (the eighth and the ninth) are needed for the Subcontract Lead Time.

A supplier code may be recorded on the work center, even if the operation is not normally subcontract.

Note

Subcontract Cost, Subcontract Lead Time, and WIP Item are available on multiple detail panels of **Routing Operations**. Once you set the Subcontract Cost, Subcontract Lead Time, or WIP Item field on one panel, the values of the same field on the other detail panels are synchronized accordingly.

Total Operation Time

The system automatically calculates the value of this field based on the values of Setup Time, Run Time, Order Quantity, and Subcontract Lead Time:

*Total Operation Time = Setup Time + Run Time * Order Quantity + Subcontract LT*

If Order Qty is zero or the routing code is not equal to the item number, the system takes Order Quantity as 1 in calculations.

For example, if Setup Time, Run Time, Order Qty, and Subcontract LT are set to 2.0, 2.0 Units/Hour, 1, and 0 Day respectively, the system automatically displays 2.50 in the Total Operation Time field.

Move Time

Enter the time, in decimal hours, required to move work from this operation to the next, independent of order quantity. This value defaults from the standard operation, if any.

Since move time is often dependent on the next operation, it is typically modified for each operation.

Move time is one component of the operation lead time. When scheduling production order operations, the system uses setup and run times to determine the operation duration. The inter-operation lead time is calculated based on the first operation's wait and move times and the following operation's queue time.

Move time is not adjusted by the system to reflect differences in order quantity. It is stated in terms of the item order quantity. You can change it on the production order, as needed.

In a process flow environment, move time is normally 0 (zero). Move time applies to a physical movement of product that affects the schedule. For example, when product moves between buildings, time may be spent loading and unloading as well as in transit.

Queue Time

Enter the amount of time, in decimal hours, that a job normally waits at this work center before this operation is set up and processed. Queue time defaults from the work center.

Queue time is one component of the operation lead time. When scheduling production order operations, the system uses setup and run times to determine the operation duration. The inter-operation lead time is calculated based on the first operation's wait and move times and the following operation's queue time.

Queue time is independent of order quantity and can be compressed in past-due situations. When the system uses backward scheduling, it works backward from the order due date to determine a scheduled

start date. If the start date is before the current date, you may want to reschedule by reducing or eliminating queue time.

When scheduling operations, the system looks at the shop calendar for the work center to determine the maximum number of hours available for queue time in each calendar period.

Wait Time

Enter the amount of time, in decimal hours, that a job normally waits at this work center after the current operation is complete before it can be moved to the next operation. Wait time defaults from the work center.

Wait time is one component of the operation lead time. When scheduling production order operations, the system uses setup and run times to determine the operation duration. The inter-operation lead time is calculated based on the first operation's wait and move times and the following operation's queue time.

Wait time is independent of order quantity. An order must wait at least this long before it can move to the next operation. Wait time cannot be compressed in past-due situations since it may be required for drying, cooling, aging, or curing.

Wait time is expressed in hours and is not affected by the shop calendar. If the factory is shut, this type of process continues.

Total Non-Operation Time

The system automatically calculates the value of this field based on the values of Move Time, Queue Time, and Wait Time:

Total Non-Operation Time = Move Time + Wait Time +Queue Time

For example, if Move Time, Queue Time, and Wait Time are set to 1, 0.5, and 0.5 respectively, the system automatically displays 2.00 in the Total Non-Operation Time field.

Milestone Operation

Milestone operations are routing operations where production counts are recorded. Milestone operations are normally used to report all labor and completions — the last operation is always treated as a milestone.

Select or clear this check box as needed. This field determines whether to designate a routing operation as a milestone operation so as to simplify the reporting of shop floor activity for production operations. The reporting of a completed quantity at a milestone operation initiates a backflush for the milestone operation, as well as previous non-milestone operations, back to but not including a previous milestone. Quantities can be reported as completed at milestone operations, and not at non-milestone operations.

This field is Yes by default if this operation is a standard operation.

Auto Labor

Select or clear this check box as needed. This field determines whether standard labor is calculated automatically by operation activity transactions.

Do not select this check box if you do not want to generate labor reporting automatically.

If the Auto Labor field is selected, the system automatically calculates and shows the standard number of run hours for the quantity processed in Actual Run Time in the **Report Operation Activity** window. You can also manually change the system-calculated Actual Run Time value when necessary, to record the actual run time for the operation.

The system also automatically reports standard hours for each prior non-milestone operation that also has Auto Labor selected. When Auto Labor is not selected, the system does not calculate standard run hours, and you should report labor explicitly.

Move Next Operation

Select or clear this check box as needed.

If you select this check box, the quantity completed for the operation automatically moves to the next operation. This occurs regardless of whether the previous operation is complete.

If you do not select this check box, the quantity completed for the operation does not affect the quantity open at the next operation.

WIP Item

Optionally, enter an item number to represent work-in-process (WIP) material for subcontract shipments.

Setup Crew

Enter the number of people normally required to set up this operation. This value defaults from the work center.

This field in considered in labor cost calculations. Update this value before running any routing cost roll-ups and production reporting.

Note If you enter 0 in this field, do not enable the Include Setup Crew checkbox in Costing Control.

Run Crew

Enter the number of people normally required to run this operation at this work center. This value defaults from the work center.

This field in considered in labor cost calculations. Update this value before running any routing cost roll-ups and production reporting.

Note If you enter 0 in this field, do not enable the Include Run Crew checkbox in Costing Control.

Overlap Units

Enter the number of units that must be completed at this operation before work can begin at the next operation. This operation value defaults to production orders referencing this routing. You can change it on the production order routing.

Operation overlap is considered by scheduling algorithms, usually with the effect of reducing overall manufacturing lead time: if the overlap quantity is 10, the system schedules only enough time to setup, run, wait, and move 10 items before starting the next operation. If the processing time at the next operation is longer than at the first, overall lead time is reduced.

If overlap is not used, overlap quantity should be zero.

Yield Percent

Enter the normal yield percentage for this operation. Yield is the percentage of any order expected to be in usable condition after this operation. The default is 100%.

Tooling

Optionally, enter a valid code for the tool that the run crew typically uses when this item is produced in this operation.

This field is for reference only and may appear on some selected reports and browses.

Subcontract Cost

Enter the average cost per unit normally charged by the subcontractor to perform this operation. This value defaults from the standard operation, if specified, and is only needed for subcontract operations.

Cost calculation functions determine item costs based on subcontract cost.

You should enter either subcontract cost and lead time, or setup, run, and move time. Specifying both can overstate cost and lead time and result in incorrect schedules.

Supplier

Enter the supplier associated with the routing operation.

If this is a subcontract operation, enter the code of the supplier doing the work.

When Production Orders is installed, the value of this field defaults from the work center.

If Production Orders is not installed, this field is editable and defaults from the standard operation.

Inventory Value

Enter a cost amount, representing accumulated cost through this operation.

You might use inventory value when costs are set internally or negotiated with a customer, or for any cost you want to track in WIP, such as union costs or miscellaneous supplies.

Work Center

The Work Center field in **Alternate Work Center Run Time** determines the alternate work center for this routing operation.

Machine

The Machine field on **Alternate Work Center Run Time** determines the alternate machine for this routing operation.

Run Time

The Run Time field on **Alternate Work Center Run Time** determines the standard run time for this routing operation when it is processed on this work center and machine.

You can set Run Time either in hours per unit or in units per hour. That means you can either enter the time, in decimal hours, required to process one unit at this operation; or set this field to the number of units that can be processed in one hour at this operation.

Note The Unit of Measure (UM) of Run Time keeps the same in both the Operation Time panel and the Alternate Work Center Run Time panel. Once you change the UM of Run Time for any alternate work center/machine combination record, the system automatically applies the new UM of Run Time to all records in the Alternate Work Center Run Time panel. The system also updates the Run Time value in the Operation Time panel and expresses it in the new UM accordingly.

Note When Run Time is expressed in units per hour, the system automatically rounds the value you entered into an integer. For example, if you set Run Time to 0.5 Units/Hour, the system rounds the value up and displays as 1 Units/Hour.

The standard run time can be recorded in the system for each routing operation and work center/machine. This is useful when an operation can be performed on any of several different work center/machine combinations. The scheduler can view the standard run time when determining which work center or machine to use.

Production feedback is reported by work center and machine. Efficiency reports compare the actual production time to the standard run time for the work center/machine used.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this operation.

You can create multiple records with different page numbers to add notes for one operation.

Note The Notes panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Note In the detailed **Notes** view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Item Routing Assignment

After you set up a routing, you can link it to an item in several ways, depending on whether this routing should be used as the default routing or available for use as an alternate routing:

- If the routing should be the default for an item, define the routing code for this item on the Main panel of **Items**.
- If the routing should be the default for an item at a particular site, define the routing code for this item on the Site Planning Exceptions sub-panel of **Items**.
- If the routing should be available as an alternate for an item at a specific site, link the routing with the item using the Item Routing Assignment panel in **Routings & Processes**.

To set up an alternate, create it in **Routings & Processes** using a unique routing code. Often the routing code is the item number followed by some unique codes; for example, a regular routing code followed by the letters ALT. If an alternate routing requires an alternate product structure or formula, record this for reference. Then define it as an approved alternate for this item in the Item Routing Assignment panel of **Routings & Processes**. MRP and manufacturing orders always use the standard routing code and product structure or formula associated with the item in item or item-site planning data. You can manually override the routing code and BOM or formula on any production order to specify the use of an approved alternate. When you choose an alternate routing, the appropriate product structure or process must also be specified.

The Item Routing Assignment panel enables you to view the items that the current routing can be used to produce, as well as specify for which item this routing can be used as an alternate.

You can click New to define more items that can use this routing as an alternate. The Edit, Delete, and Details buttons are enabled only after you select an item whose Source is Alternate on this panel. This then enables you to modify or delete such an item, or launch the **Alternate Routings** hybrid view for further .

After you add an item on this panel for a routing (for example, routing A), you can set Routing of this item to routing A when creating a production order for manufacturing this item.

The Item Routing Assignment panel consists of the following fields:

Item

Enter a code to identify the item that this routing could be used as an alternate.

Description 1

This field is read-only and displays the primary item description set in **Items**.

Description 2

This field is read-only and displays the extra or supplementary information on the item.

Source

Indicates the source of the alternate routing. Alternate routings can come from any of the following sources:

- Item Routing: indicates the routing is defined for this item on the Main panel of **Items**.
- Item-Site Routing: indicates the routing is defined for this item on the Site Planning Exceptions sub-panel of **Items**. In this case, the Site field also shows the specific site where the setup has been made.
- Item: indicates the parent item itself.
- Alternate: indicates the routing is defined for this item as an alternate routing on this panel.

Note

The first three types of records cannot be created, modified, or deleted on this panel. Only items whose Source is Alternate can be created, modified, or deleted here.

Site

Enter a code identifying the site that uses this alternate routing for this item.

Each item and site has a standard product structure and routing, or a standard formula and process. When there are other ways to make this item, alternate routings and bills can be set up and associated with the item. Only predefined alternates can be referenced on manufacturing orders at that site.

One alternate can be associated with more than one site.

BOM/Formula

Enter a code identifying the product structure or formula to use with this alternate routing.

Leave this field blank when the alternate routing is used for multiple items. This lets you use the alternate with multiple product structures or formulas.

When this alternate routing is selected for use on a manufacturing order, an appropriate product structure or formula must also be specified. If left blank, the default is the standard bill associated with the item.

BOM codes and item numbers can be independent. This lets you set up one structure to make multiple items or define an item with more than one product structure. If more than one structure is defined for an item, only one is used for costing and planning at each site.

You can assign a default BOM code to an item in item planning data. The system assumes the item number is the default parent if a BOM code is not specified. You can also assign a BOM code to an item at each site in item-site planning data, indicating how the item is normally made at that site.

Note

After an item is added to this panel, you can click Edit or Details to change the BOM/Formula.

Unit of Measure

Unit of measure for stocking and planning this item. This field is view-only and defaults based on the item number you specified.

Drawing

Engineering drawing number for this item. This field is view-only and defaults based on the item number you specified. It is optional and for reference only and can appear on some selected reports and browses.

Item Type

An optional code used to categorize similar items. This field is view-only and defaults based on the item number you specified.

Item Status

Status of this item in the product lifecycle. This field is view-only and defaults based on the item number you specified.

Routing/Process Copy Action

The destination operations have the same characteristics as the source, such as work center/machine, lead times, yield, supplier, and subcontract cost.

This function is useful when you have several products with similar operations. Set up the routing or process for the first item and copy it to the other items. Then use the appropriate function to change the operation information for the destination routings or processes as needed. Select an existing routing or process as the source, and then specify the destination code. A range of operations can be specified using the Source From Operation and Source To Operation fields; if you leave them blank, all operations are copied.

The destination routing or process does not have to exist or be a valid item number. If it does exist and has operations, existing operations are not overwritten. Any source operation numbers that do not exist in the destination are added, merging the two sets of operations.

The system also displays the simulation results for the copy action in the Operations grid, allowing you to check before submission. If the copy operation is run by mistake, you can change or delete the destination routing or process in **Routings & Processes**.

When you select an existing routing or process, and choose Actions > *(Individual*) Copy to New or Existing Routing in **Routings & Processes**, the **Copy to New or Existing Routing** window displays.

Note The Summary panel of this window displays information about the destination routing or process, including the routing or process code and its description.

Main

The Main panel consists of the following fields:

Routing

Enter the code that identifies the routing or process to which operations are to be copied. You cannot leave this field blank.

If you specify an existing routing or process with operations, operations from the source routing or process are added to them. If operations

with the same operation numbers exist in both routings or processes, these operations are not copied.

If you specify a non-existing routing or process, it is created with the same operations as the source routing or process.

Description

Enter a short description of this routing or process.

If the destination routing or process already exists and has a description, it defaults to this field.

Batch Quantity

A field displaying the normal batch quantity for an item.

This field is read-only. It is available only when the destination is a process. The Batch Quantity value for a process here defaults from the Batch Size value defined for the formula with the same name in **Product Structures & Formulas**.

Note The Batch Size value cannot be updated manually. It is updated by the Change Batch Quantity action in **Product Structures & Formulas** and displays the normal batch size for this item.

Options

You can then set Source From Operation and Source To Operation to specify a range of operations from the source routing or process.

Source From Operation

Specify the first operation number to be copied. This can be left blank if all operations are copied, beginning with the first sequential operation number.

Source To Operation

Enter the last operation in a range of operations to copy into the destination routing or process code.

After setting the preceding fields, you can click Search to load operations. The system loads all of the operations in the specified range and lists them in the Operations panel. Then you can determine whether to copy them to the destination routing or process.

Note Each time you click Search, the Operations panel refreshes.

Operations

The system loads all of the operations in the specified range from the source routing or process, as well as the operations in the destination routing or process, and displays them in this panel.

Note The system does not load expired routing or process operations.

The following fields display by default:

- Operation
- Description
- Standard Operation
- Start Date
- End Date
- Work Center
- Machine
- Source
- Routing

Note You can configure the view to display more fields in this grid; for example, Run Time for a routing, or Run Time per Batch for a process.

The following values are available for the Source field:

- New: The operation is from the source routing or process.
- Existing: The operation exists in the destination routing or process.

You can manually select operations and click Submit to copy them to the destination routing or process.

Alternate Routings & Processes

A routing can be used for multiple items. One item can also be made using one of several routings.

Note Since processes are a type of routings, the term "routing" mentioned in this document refers to both the routing and the process unless otherwise specified.

You can assign approved alternate routings to items and sites when an item can be made different ways, using different operations, work centers, machines, and perhaps different components. Each of these is called an alternate.

Alternate routings are useful for managing variations in the manufacturing process of an item. For example, a substitute machine is used while the primary machine for a process is being repaired.

You can define or maintain alternate routings in either of the following views:

- **Routings & Processes**: allows you to specify on which item the selected routing can be used. For details, see Routings & Processes on page 2523.
- **Alternate Routings & Processes**: allows you to define an alternate routing for an item-site.

In **Alternate Routings & Processes**:

- If a routing should be available as an alternate for an item at any site but not used as the default, use **Alternate Routings & Processes** to link it with an item. You can then change the routing code on a production order at any site to this alternate.
- If a routing should be available as an alternate for an item at a specific site, use **Alternate Routings & Processes** to link a routing code to an item-site. You can then change the routing code on a production order at this site to this alternate.

Summary

The Summary panel displays key data about the alternate routing or process you are working on, including Item, Unit of Measure, Site, and Routing. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel consists of the following fields:

Item

Enter a code identifying an item that will use this alternate routing or process. The item code cannot be a base process. A base process is an item with a co-product/by-product structure.

Item codes uniquely identify items or products, such as raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Each item and site has a standard product structure and routing, or a standard formula and process. If there are other ways this item can be made, alternate routings and bills can be set up and associated with the item. Only predefined alternates can be referenced on manufacturing orders at that site.

Unless items are defined by site in Item-Site Planning, all items are equally available at all sites. This provides broad flexibility in permitting item transactions at multiple sites, such as issuing work order components and receiving end products at multiple sites.

Description 1

This field is read-only and displays the primary item description set in **Items**.

Description 2

This field is read-only and displays the extra or supplementary information on the item.

Unit of Measure

Unit of measure for stocking and planning this item. This field is read-only and defaults based on the item number you specified.

Drawing

Engineering drawing number for this item. This field is read-only and defaults based on the item number you specified. It is optional and for reference only and can appear on some selected reports and browses.

Item Type

An optional code used to categorize similar items. This field is read-only and defaults based on the item number you specified.

Item Status

Status of this item in the product lifecycle. This field is read-only and defaults based on the item number you specified.

Site

Enter a code identifying the site that uses this alternate routing for this item.

Each item and site has a standard product structure and routing, or a standard formula and process. When there are other ways to make this item, alternate routings and bills can be set up and associated with the item. Only predefined alternates can be referenced on manufacturing orders at that site.

One alternate can be associated with more than one site.

Routing

Enter a code identifying the routing that will be used as an alternate method for producing this item or product.

Only predefined alternate routings can be referenced on manufacturing orders for this item at this site.

Routing codes and item numbers are entirely independent. While you must attach one primary routing code to the item for costing and planning, any number of others can be set up and used as alternates. This lets you set up one routing to make multiple items or define an item with more than one routing.

You can assign a default routing code to an item on the main panel of **Items**. The system assumes that the item number is the default routing if a routing code is not specified. Assign a routing code to an item at each site on the Site Planning Exceptions subpanel of **Items**, indicating how the item is normally made at that site.

You do not need to define routings for co-products because the system uses the routing associated with the base process.

BOM/Formula

Enter a code identifying the product structure or formula to use with this alternate routing.

Leave this field blank when the alternate routing is used for multiple items. This lets you use the alternate with multiple product structures or formulas.

When this alternate routing is selected for use on a manufacturing order, an appropriate product structure or formula must also be specified. If left blank, the default is the standard bill associated with the item.

BOM codes and item numbers can be independent. This lets you set up one structure to make multiple items or define an item with more than one product structure. If more than one structure is defined for an item, only one is used for costing and planning at each site.

You can assign a default BOM code to an item in item planning data. The system assumes the item number is the default parent if a BOM code is not specified. You can also assign a BOM code to an item at each site in item-site planning data, indicating how the item is normally made at that site.

Standard Operations

Routings or processes may share one or more operations that are essentially the same. For example, an automated packaging process may be the same regardless of the color of the products packaged. To save work when entering new routing or process operations, you can create template steps called standard operations.

A standard operation is a template for multiple similar or identical routing or process operations. Such an operation is common to several products or applicable to different routings or processes in different operation sequences.

Standard operations are not used directly but can be referenced when you add a new routing or process operation. The standard operation information displays and can be changed. Standard operations help speed up entry of your routing or process operations by providing default information when you create a new operation in **Routings & Processes**. You can modify defaults as needed. You can also reference standard operations on a production order in **Production Order Routings**.

The **Standard Operations** view allows you to create, modify, or delete standard operations.

Note Service standard operations are not supported yet. Standard operations are used only when adding new operations. Changing a standard operation does not automatically change the routings or processes that reference it. You need to use the Routing Update function to do this. Any production order routings referencing this standard operation must be changed manually to reflect the change.

Summary

The Summary panel displays key data about the standard operation you are working on, including Standard Operation, Work Center, and Supplier. These fields are read-only and stay in view even when you scroll down the page.

Main

On the Main panel, add information about the standard operation.

Standard Operation

Enter a code identifying a standard operation. This field is mandatory.

This code identifies a standard operation—a process operation common to several products or applicable to different routings in different operation sequences.

Standard operation codes must be unique.

Standard operations are not used directly but can be referenced when you add a new routing or process operation. The standard operation information displays and can be changed.

Standard operations act as templates and can facilitate entry of routing or process operations. They can also be accessed when adding operations to a production order.

Standard operations are only used when adding new operation steps. Changing a standard operation does not automatically change the routings or processes that reference this standard operation. Use the Routing Update function to do this. Any production order routings referencing this standard operation must be changed manually to reflect the change.

Description

Optionally, enter a brief description of this standard operation, which usually indicates the type of operation such as paint or stamp.

The standard operation description prints on most reports beside the standard operation code.

Work Center

Enter the code identifying the work center where this standard operation is normally performed. This field is mandatory.

The work center code and the machine code together identify a work center—a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added that references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine. Then the operation times and instructions may also need to be changed.

At least one department must be defined before you can enter a work center. Then subdivide each department into logical work centers. A

work center is a specific production unit within a department consisting of one or more people and one or more machines.

Set up one work center code for each supplier providing outside processing for subcontract operations.

Machine

Enter the machine this standard operation is normally performed on.

The work center and machine code together identify work center defaults. You can uniquely identify a work center by using a work center code along with an optional machine code. You can leave Machine blank if only one type of machine is available in the work center. If there are multiple machine types or models, set up a different record for each machine, using the same work center ID.

Note After you set Work Center and Machine, the system automatically fills the corresponding supplier code, if any, in the Supplier field on the Subcontract panel.

Operation Time

The Operation Time panel allows you to define the setup, run, and move time, as well as subcontract lead time, for carrying out this operation at this work center.

Setup Time

Enter the standard time, in DD:HH:MM:SS format, that it takes to prepare this work center to carry out this operation, independent of order quantity.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added that references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine. Then the operation times and instructions may also need to be changed.

Run Time

Enter the time, in decimal hours, that it normally takes to process one unit at this operation. You can alternatively set this field to the number of units to be processed in one hour at this operation.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added that references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine.

Then the operation times and instructions may also need to be changed.

Move Time

Enter the time, in DD:HH:MM:SS format, that it normally takes to move work from this operation to the next, independent of order quantity.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added that references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine. Then the operation times and instructions may also need to be changed.

Since move time is often dependent on what the next operation is, this normally is changed on each routing or process operation.

Move time is not adjusted by the system to reflect differences in order quantity. It is stated in terms of the Order Quantity of the item, but can be changed manually on the production order.

In a process flow environment, move time is normally zero. Move time applies to a physical movement of product that needs to be accounted for in the schedule: if product moves between buildings, time may be spent loading and unloading as well as in transit.

Subcontract Lead Time

Enter the average number of calendar days it normally takes a subcontractor to perform the operation.

Subcontract cost and lead time can be recorded for a subcontract operation. These values are the default when a routing or process operation is added which references this standard operation code. They can be changed, based on the item and order quantity.

Cost calculations determine item costs using subcontract cost. Subcontract lead time is part of the calculation for the manufacturing lead time of an item (performed in **Routing Cost Roll-Up**). Subcontract Lead Time also influences scheduling for production order operations.

When scheduling production order operations, the system treats the Subcontract Lead Time as the calendar days needed between the operation Due Date and the Start Date. For example, if Subcontract Lead Time is two days and the Due Date is the tenth of a month, the Start Date would be the seventh because the two days between (the eighth and the ninth) are needed for the Subcontract Lead Time.

Either subcontract cost and lead time, or setup, run, and move time are entered on an operation. If both are recorded, cost and lead time are overstated and operation schedules are incorrect. A supplier code can

be recorded on the work center, even if the operation is not normally subcontract.

Note The Subcontract Lead Time value you set on the Operation Time panel is automatically synchronized to the same field on the Subcontract panel, and vice versa.

Operation Options

Milestone Operation

Milestone operations are routing operations where production counts are recorded. Milestone operations are normally used to report all labor and completions—the last operation is always treated as a milestone.

Select or clear this checkbox as needed. This field determines whether you can report completions at this operation. Completions initiate a backflush for this and all previous non-milestone operations, back to but not including a previous milestone.

- When selected: All transactions are allowed. The Report Operation Activity action in **Production Operations Reporting** backflushes material, labor, burden, and subcontract at standard.
- When not selected: The Report Operation Activity action in **Production Operations Reporting** is not suggested. However, you can also use non-milestone operations to report scrap, rejects, rework, or discrepant labor. In this case, you create WIP balances at non-milestones. This allows for more accurate tracking of WIP costs and quantities. Normally, however, non-milestones are maintained at zero inventory.

The system assumes the last operation is a milestone, regardless of what is in this field.

Milestones allow you to define meaningful reporting points in your processes and avoid reporting where it is not meaningful. You may wish to report where the most labor or highest material costs are added, or where the product reaches a certain physical stage.

Overlap Units

Enter the number of units that must be completed at this operation before work can begin at the next operation.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added which references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine. Then the operation times and instructions may also need to be changed.

Operation overlap is considered by scheduling algorithms, usually with the effect of reducing overall manufacturing lead time: if the overlap

quantity is 10, the system schedules only enough time to setup, run, wait, and move 10 items before starting the next operation. If the processing time at the next operation is longer than at the first, overall lead time is reduced.

If overlap is not used, overlap quantity should be zero. In a process flow industry, normally overlap quantity is 1.

Yield Percent

Enter the normal yield percentage for this operation—the percentage of any order expected to be in usable condition after this operation. The default is 100%.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added which references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine. Then the operation times and instructions may also need to be changed.

Tooling

Optionally, enter a valid code for identifying the tool normally used by this operation.

Each standard operation is defined with the setup, run, and move time (or subcontract time), yield, overlap, and instructions for carrying out this operation at this work center. This information displays as the default when a routing or process operation is added which references this standard operation code. It can be changed, for example, if the operation should be performed by a different work center or machine. Then the operation times and instructions may also need to be changed.

This field is for reference only and may appear on some selected reports and browses.

Subcontract

Subcontract Cost

Enter the average cost per unit normally charged by the subcontractor to perform this operation.

Subcontract cost and lead time can be recorded for a subcontract operation. These values are the default when a routing or process operation is added which references this standard operation code. They can be changed, based on the item and order quantity.

Cost calculations determine item costs using subcontract cost. Subcontract lead time is part of the calculation for the manufacturing

lead time of an item (performed in Routing Cost Roll-Up). Subcontract Lead Time also influences scheduling for production order operations.

Either subcontract cost and lead time, or setup, run, and move time are entered on an operation. If both are recorded, cost and lead time are overstated and operation schedules are incorrect. A supplier code can be recorded on the work center, even if the operation is not normally subcontract.

Note The Subcontract Cost value you set on the Subcontract panel is automatically synchronized to the same field on the Costing panel, and vice versa.

Subcontract Lead Time

Enter the average number of calendar days it normally takes a subcontractor to perform the operation.

Subcontract cost and lead time can be recorded for a subcontract operation. These values are the default when a routing or process operation is added which references this standard operation code. They can be changed, based on the item and order quantity.

Cost calculations determine item costs using subcontract cost. Subcontract lead time is part of the calculation for the manufacturing lead time of an item (performed in Routing Cost Roll-Up). Subcontract Lead Time also influences scheduling for production order operations.

When scheduling production order operations, the system treats the Subcontract Lead Time as the calendar days needed between the operation Due Date and the Start Date. For example, if Subcontract Lead Time is two days and the Due Date is the tenth of a month, the Start Date would be the seventh because the two days between (the eighth and the ninth) are needed for the Subcontract Lead Time.

Either subcontract cost and lead time, or setup, run, and move time are entered on an operation. If both are recorded, cost and lead time are overstated and operation schedules are incorrect. A supplier code can be recorded on the work center, even if the operation is not normally subcontract.

Note The Subcontract Lead Time value you set on the Subcontract panel is automatically synchronized to the same field on the Operation Time panel, and vice versa.

Supplier

If this is a subcontract operation, enter the code of the supplier doing the work.

After you set Work Center and Machine on the Main panel, the system automatically fills the corresponding supplier code, if any, in the Supplier field on this panel.

Note When Production Orders is installed, this field is disabled; however, the value of this field is editable in work order environments.

Costing

Inventory Value

Enter a cost amount, representing accumulated cost through this operation.

You might use inventory value when costs are set internally or negotiated with a customer, or for any cost you want to track in WIP, such as union costs or miscellaneous supplies.

Subcontract Cost

Enter the average cost per unit normally charged by the subcontractor to perform this operation.

Subcontract cost and lead time can be recorded for a subcontract operation. These values are the default when a routing or process operation is added which references this standard operation code. They can be changed, based on the item and order quantity.

Cost calculations determine item costs using subcontract cost. Subcontract lead time is part of the calculation for the manufacturing lead time of an item (performed in Routing Cost Roll-Up). Subcontract Lead Time also influences scheduling for production order operations.

Either subcontract cost and lead time, or setup, run, and move time are entered on an operation. If both are recorded, cost and lead time are overstated and operation schedules are incorrect. A supplier code can be recorded on the work center, even if the operation is not normally subcontract.

Note The Subcontract Cost value you set on the Costing panel is automatically synchronized to the same field on the Subcontract panel, and vice versa.

Notes

The Notes panel allows you to manage note records.

This panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this standard operation.

You can create multiple records with different page numbers to add notes for one standard operation.

Note In the detailed Notes view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Routing Slips

The routing slip definition determines:

- The severity list used to calculate when a problem is critical enough to result in disapproval.
- The users and groups to be notified when the change document is submitted for approval and when it is approved.
- The groups that must approve the change, the order in which approvals occur, whether a group can reroute the change document, and whether a group should be notified when they are the next group in a sequence.

You can also use **Routing Slips** to delete an entire routing slip along with its associated groups, or to delete individual groups associated with the routing slip.

You can create any number of routing slips and associate them with different PCO and PCR types as defined in **PCR/PCO Types**.

Summary Panel

The Summary panel displays the key data of the routing slip, including the routing slip code, description, and severity list. These fields are read-only and remain in view when you scroll down the page.

Main Panel

Routing Slip

Enter a unique code identifying the routing.

Description

Enter a brief, 24-character description of the routing slip. Descriptions appear on most reports as space permits and help users to identify codes when selecting them from the lookup browse.

Severity List

Specify a valid reason type, defined in **Reason Codes**. The Reason Type field groups a list of numeric codes, representing the errors causing a document to be disapproved and their severity.

Severity lists are used, in conjunction with the severity level associated with a group, to determine when a group must reapprove a document. The severity level acts as a filter to prevent needless reviews and to streamline the product change order approval process.

Users Panel

Users Notified At Submit

Specify valid internal users, defined in **Users**, to be notified with an email message when a document with this routing slip is submitted for approval.

These users are typically not members of any product change control groups, but can be administrators or others concerned about the timing of approvals.

Leave this field blank unless you specifically want to notify additional users.

Users E-mailed At Submit

Specify external users, not defined in the system, to be notified with an email message when a document with this routing slip is submitted for approval.

This list might include key suppliers or other persons outside your immediate organization who have an interest in the product change.

This field allows 240 characters. You must specify the full email address just as you do when sending email from your email system.

Leave this field blank unless you specifically want to notify someone outside of your local database.

Users Notified At Approval

Specify valid internal users, defined in **Users**, to be notified with an email message when a document with this routing slip is approved.

These users are typically not members of any product change control groups, but can be administrators or others concerned about the timing of approvals.

Leave this field blank unless you specifically want to notify additional users.

Users E-mailed At Approval

Specify external users, not defined in the system, to be notified with an email message when a document with this routing slip is approved.

This list might include key suppliers or other persons outside your immediate organization who have an interest in the product change.

This field allows 240 characters. You must specify the full email address just as you would when sending email from your email system.

Leave this field blank unless you specifically want to notify someone outside of your local database.

Groups Panel

Use the Groups panel to add, edit, or delete a group and its related information for a routing slip.

To view or update a group, click a row in the grid, or click the **Details** button above the grid.

Group

This field is validated against groups created in **Product Change Control Groups**. You can add more than one group to a routing slip. Any member of a group can review a document that uses this routing slip. After a specific member of the group has given approval, only that person can change the approval or disapproval.

For each group on the routing slip, you can do the following:

- Specify the order in which approvals are required.
- Specify if groups can re-route documents.
- Set a severity level for re-routing.
- Specify if groups should be notified when they are next in sequence to approve a document.

Description

Description uniquely identifies a group and is intended to contain the full name of a group.

Sequence

A number from 0 to 999 specifies the order for the group within the approval routing. If zero, groups can review the document in any order.

Assign sequence numbers as 10, 20, 30, and so on to allow for additional groups.

Severity Level

A number used to determine when disapproved product change requests and product change orders should be rerouted to this group.

If you have specified a severity list defined in **Reason Codes**, a sequence number is associated with each reason. The severity level acts as a filter to prevent needless reviews and to streamline the product change order approval process.

The greater the value in this field, the less likely the group will need to review rerouted product change orders. A low number indicates that the group needs to review every minor defect. If you are not using severity levels, leave this field value at zero.

The system reroutes a product change request or product change order to this group when all of the conditions below are true:

- The group has already approved the document.

- The change is rejected by another group on the routing slip that has reroute authority (Can Re-Route is Yes).
- The rejecting group sets the Re-Route Level to a number greater than or equal to the severity level in this field.

Can Re-Route

Indicates whether the members of this group can reroute a document if an error is detected during the review and approval process.

Select the checkbox to indicate that the group has authority to reroute the document if an error is detected.

When a document is rerouted, a reroute level must be specified. Groups with a severity level less than this number have any approvals set to No, and must reapprove the document when it is submitted again.

Notify When Next

Indicates whether the members of the group are notified when they are next in the sequence to review a document.

Select the checkbox to indicate that the group is notified when they are next to review the document.

To be notified, the members of the group must have valid email addresses defined in **Users** and a unique sequence number on the routing.

Creating a Routing Slip

1. Go to **Routing Slips**.
2. In the toolbar, click the New button.
3. Complete the fields described above. Click Save.

Modifying a Routing Slip

1. Go to **Routing Slips**.
2. Select the routing slip you want to modify and click Edit. Alternatively, double-click the routing slip.
3. Edit the relevant information. Click Save.

Deleting a Routing Slip

1. Go to **Routing Slips**.
2. Double-click the routing slip you want to delete.
3. In the toolbar, click the Delete button.
4. A message appears prompting you to confirm the deletion. Click Delete.

Formulas

Filter

The Filter panel contains key information that includes a parent item and an operation. You can set a site, a date, and a level for the item; and choose whether to include formulas only, to print only one parent per page, and to sort by reference in this report.

Parent Item

Enter a valid item number, or a predefined BOM code, identifying the parent of a product structure or formula.

The BOM, formula code, or base process for a co-product or a by-product structure must be a valid item number. It may not be a configured item. The item cannot have any alternate structures or exist as a component in a non-co-product or a non-by-product structure. The BOM or formula code for the item must be the same as the item number or be blank.

Formulas are entered as parent or component relationships. A parent item may be a finished product, or some intermediate item.

A parent item may also be a BOM code, allowing one formula to be set up and used to make multiple items or one item to have more than one formula (perhaps for different batch sizes). Each item and site can be assigned a BOM code indicating how the item is normally made there.

At each level of the formula, the component ingredients include only those items used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another.

BOM codes and item numbers are entirely independent. This allows the same product structure or formula to be used for multiple items. It also allows the same co-product and by-product structure to be used for multiple co-products. Independent BOM codes also allow the same item to have multiple product structures or formulas. One of these must be attached to the item as the primary BOM for costing and planning, but any number of others can be set up and used as alternates.

For co-products and by-products, the base process has an item master number and a BOM or formula code linked to co-products, by-products, and components. The base process may also be linked to routing and process operations, but this is not required. The base process is entered as the component for co-products or by-products. Co-products and by-products are produced from the base process code.

If an item is either a co-product or a by-product and is also a parent in a non-co-product or a non-by-product structure, the output will display the Base Process as Level 1 with a J in the SC column. All levels under Base Process belong to the co-product and by-product structure. The

next level 1 in the output begins with the non-co-product or non-by-product structure.

Operation

Enter a number identifying a step within a specific routing.

Operations are uniquely numbered and sequenced steps within a routing. Each step is assigned an operation sequence number.

Routing operations are always printed in ascending sequence. For example, operation 20 follows operation 10.

Routing operations are accessed when a production order is created and printed. Operation information can be changed on any production order.

An operation is required to report any type of labor, including repetitive labor feedback. If you delete an operation from a routing, you must also close all outstanding cumulative orders using the routing in the Repetitive module. Otherwise, employees can report labor against the operation by entering its number.

Number operations by 10s or 100s so that you can add new steps without renumbering existing ones. If a routing has operations 10, 20, and 30 and you need to add another operation after operation 20, you can enter it as operation 25.

Site

A code signifying where a parent item is located. Enter a site code to select an item for this report.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these within a specific domain.

As of Date

Specify the effective date to use when selecting which parent or component relationships to display. The default is the system date.

Parent and component relationships are defined as effective over a period of time. Effective dates phase in engineering changes and maintain product structure history online.

Manufacturing planning and control functions always use the product structure information in effect on that date. Most reports and inquiries may be selected for a specific effective date, using the product structure in effect on the date specified.

The effective date is useful for cost calculations, allowing you to make changes to the product structure effective in the future, and to then evaluate the cost effect of that change.

Levels

Enter a value to identify the levels of parent and component relationships to include when copying a product structure.

If it is set to 1, the system copies items directly related to this level in a parent and component relationship.

Enter 0 (zero) to copy all components related to this parent, including lower-level assemblies and raw materials.

Note When deactivating a product structure, this field is set to 1.

Formula Only

Specify whether to report both structures and formulas or only formulas. The default is No.

When No, the system prints all product structures and formulas within the selected item range.

When Yes, the system prints only formulas.

New Page Each Parent

Specify whether this report should print only one parent item per page. The default is No.

- Yes: When the product structure for one item has been printed, the printer advances to the top of the next page before printing the product structure for the next item.
- No: Product structures for different parent items are separated only by a line feed.

Sort by Reference

Specify whether components are to be listed in sequence by reference code. The default is No.

Each parent and component relationship is uniquely identified by the combination of the parent item, component item, and reference (feature) code. This approach allows the same component to appear in a bill or formula more than one time at the same level.

Normally, component items are listed by component item number. However, if you set Sort by Reference to Yes, component items are sequenced by reference number and then by item number.

When you define an alternate structure, you can enter a reference number. The reference can identify situations where using the alternate is appropriate.

The reference is useful for visually separating alternates from regular component items and from each other. Some reports can be listed in sequence by reference number, rather than by component item number, allowing alternates to be listed separately.

Formulas by Component

This report allows you to view grouped product structures and formulas of parent items by component to support a smooth production operation.

Filter

The Filter panel contains key information that includes a parent item and an operation. You can set a date and a level for the item; and choose whether to include formulas only, to print only one parent per page, and to sort by reference in this report.

Parent Item

A valid item number, or a predefined BOM code, identifying the parent of a product structure or formula.

The BOM, formula code, or base process for a co-product or a by-product structure must be a valid item number. It may not be a configured item. The item cannot have any alternate structures or exist as a component in a non-co-product or a non-by-product structure. The BOM or formula code for the item must be the same as the item number or be blank.

Formulas are entered as parent or component relationships. A parent item may be a finished product, or some intermediate item.

A parent item may also be a BOM code, allowing one formula to be set up and used to make multiple items or one item to have more than one formula (perhaps for different batch sizes). Each item and site can be assigned a BOM code indicating how the item is normally made there.

At each level of the formula, the component ingredients include only those items used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another.

BOM codes and item numbers are entirely independent. This allows the same product structure or formula to be used for multiple items. It also allows the same co-product and by-product structure to be used for multiple co-products. Independent BOM codes also allow the same item to have multiple product structures or formulas. One of these must be attached to the item as the primary BOM for costing and planning, but any number of others can be set up and used as alternates.

For co-products and by-products, the base process has an item master number and a BOM or formula code linked to co-products, by-products, and components. The base process may also be linked to routing and process operations, but this is not required. The base process is entered as the component for co-products or by-products. Co-products and by-products are produced from the base process code.

If an item is either a co-product or a by-product and is also a parent in a non-co-product or a non-by-product structure, the output will display the Base Process as Level 1 with a J in the SC column. All levels under

Base Process belong to the co-product and by-product structure. The next level 1 in the output begins with the non-co-product or non-by-product structure.

Operation

A number identifying a step within a specific routing.

Operations are uniquely numbered and sequenced steps within a routing. Each step is assigned an operation sequence number.

Routing operations are always printed in ascending sequence. For example, operation 20 follows operation 10.

Routing operations are accessed when a work order is created and printed. Operation information can be changed on any work order.

An operation is required to report any type of labor, including repetitive labor feedback. If you delete an operation from a routing, you must also close all outstanding cumulative orders using the routing in the Repetitive module. Otherwise, employees can report labor against the operation by entering its number.

Number operations by 10s or 100s so that you can add new steps without renumbering existing ones. If a routing has operations 10, 20, and 30 and you need to add another operation after operation 20, you can enter it as operation 25.

As of Date

The default is the system date.

The effective date to use when selecting which parent or component relationships to display.

Parent and component relationships are defined as effective over a period of time. Effective dates phase in engineering changes and maintain product structure history online.

Manufacturing planning and control functions always use the product structure information in effect on that date. Most reports and inquiries may be selected for a specific effective date, using the product structure in effect on the date specified.

The effective date is useful for cost calculations, allowing you to make changes to the product structure effective in the future, and to then evaluate the cost effect of that change.

Levels

Enter a value from 1 to 99 to identify the levels of parent and component relationships to include when copying a product structure.

If set to 1, the system copies items directly related to this level in a parent and component relationship.

Enter 0 (zero) to copy all components related to this parent, including lower-level assemblies and raw materials.

Note When deactivating a product structure, this field is set to 1.

Formula Only

Specify whether to report both structures and formulas or only formulas. The default is No.

The value No prints all product structures and formulas within the selected item range.

The value Yes prints only formulas.

New Page Each Parent

Specify if this report should print only one parent item per page. The default is No.

Yes: When the product structure for one item has been printed, the printer advances to the top of the next page before printing the product structure for the next item.

No: Product structures for different parent items are separated only by a line feed.

Sort by Reference

Specify if components are to be listed in sequence by reference code.

Each parent and component relationship is uniquely identified by the combination of the parent item, component item, and reference (feature) code. This approach allows the same component to appear in a bill or formula more than one time at the same level.

Normally, component items are listed by component item number. However, if you set Sort by Reference to Yes, component items are sequenced by reference number and then by item number.

When you define an alternate structure, you can enter a reference number. The reference can identify situations where using the alternate is appropriate.

The reference is useful for visually separating alternates from regular component items and from each other. Some reports can be listed in sequence by reference number, rather than by component item number, allowing alternates to be listed separately.

Materials Summary

This report enables you to view the summarized BOM or formula of each parent item from all product structure or formula records.

Filter

The Filter panel contains key information that identifies an item number, a product line, and a site. You can set a date, a level, and a component supplier that apply to this report. You may also choose whether to include assemblies only in the report.

Item Number

A number identifying the parent of a product structure or formula.

The BOM, formula, or base process for a co-product or by-product structure must be a valid item number. It may not be a configured item, a co-product, or a by-product item. The item cannot have any alternate structures or exist as a component in a non-co-product or a non-by-product structure.

The BOM or formula code for the item must be the same as the item number or be blank.

For co-products and by-products, this is the base process code for the co-product or by-product structure. Product structures and formulas are entered as parent and component relationships.

A parent item may be a finished product, or some intermediate item. A parent item may also be a BOM code—allowing one structure to be set up and used to make multiple items or one item to have more than one structure. Each item and site can be assigned a BOM code indicating how the item is normally made there.

At each level of the product structure or formula, the component items include only those items used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another. Parent and component relationships are used throughout the system for manufacturing planning and control.

For co-products and by-products, the base process has an item master number and a BOM or formula code linked to co-products, by-products, and components. The base process may also be linked to routing and process operations, but this is not required. The base process is entered as a component for the co-products and by-products.

BOM codes and item numbers are entirely independent, allowing the same product structure or formula to be used for multiple items. It also allows the same co-product and by-product structure to be used for multiple co-products.

Independent BOM codes also allow the same item to have multiple product structures or formulas. One of these must be attached to the

item as the primary BOM for costing and planning, but any number of others can be set up and used as alternates.

Prod Line

The product line code this plan relates to. Product line codes identify major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Site

A code identifying the site that is associated with selected materials.

As of Date

The default is the system date.

The effective date to use when selecting which parent and component relationships to display. Parent and component relationships are defined as effective over a period of time. Effective dates phase in engineering changes and maintain product structure history online.

Levels

Enter a value from 1 to 99 to identify the levels of parent and component relationships to include when copying a product structure.

If you set the level to 1, the system copies items directly related to this level in a parent and component relationship. Enter 0 (zero) to copy all components related to this parent including lower-level assemblies and raw materials.

Note When deactivating a product structure, this field is set at 1.

Assemblies Only

Specify if all bill of material codes (BOM codes) are printed, or only BOM codes that have components.

Yes: Only BOM codes that have a product structure or formula are listed on this report, along with their components. Non-parent items that happen to have a BOM code are only printed as components, not on the left of the page as parents.

No: All BOM codes are listed, even those with no components—that is, raw materials.

Component Supplier

A code identifying the supplier for the component of an item. Leave this field blank to select all suppliers.

If an item site planning record exists, the system filters the supplier against the item site planning record.

If an item site record does not exist, the system filters the supplier against the item master table. The system does not check the supplier against the BOM code.

Product Structure Codes

This report allows you to view product structure codes that are linked to the item number of an item for costing, planning, or manufacturing.

Filter

The Filter panel contains key information that identifies a BOM code. You can choose whether to include items or to print comments on the report.

BOM Code

A code identifying the product structure, formula, or co-product and by-product structure normally used to manufacture an item. For co-products and by-products, this is the base process code.

Enter a BOM code for selecting a product structure for this report.

Include Items

Specify whether to include items for selected product structures in the report. The default is No.

Item codes uniquely identify items or products—raw materials, purchased or manufactured intermediates, finished items, or packaging materials.

Print Comments

Specify whether comments associated with each BOM code are printed on the report. The default is No.

If Yes, comments are printed following the BOM code. If No, comments are not printed.

Comments are useful for identifying when, or under what circumstances, a particular BOM is used—for particular batch sizes, ingredient potencies, or cost simulation.

Product Structures by Item

Filter

The Filter panel contains key information that includes a parent item and an operation. You can set a range of dates and a level. You can also choose whether to display only one parent per page or whether to sort by reference.

Parent Item

A code identifying the parent item for this product structure or formula. For co-products and by-products, this is the base process code for the co-product and by-product structure.

The parent of a product structure or formula must be either a valid item number or a predefined BOM code.

Product structures and formulas are entered as parent or component relationships. A parent item may be a finished product, or some intermediate item. A parent item may also be a BOM code—allowing one structure to be set up and used to make multiple items or one item to have more than one structure.

Operation

A number identifying a step within a specific routing code for selecting a product structure.

Operations are uniquely numbered and sequenced steps within a routing. Each step is assigned an operation sequence number. Routing operations are always printed in ascending sequence. For example, operation 20 follows operation 10. Routing operations are accessed when a work order is created and printed.

As of Date

The effective date to use when selecting which parent or component relationships to display.

Parent and component relationships are defined as effective over a period of time. Effective dates phase in engineering changes and maintain product structure history online.

The default is the system date.

Levels

A value ranging from 1 to 99 that identifies the levels of parent and component relationships to include when copying a product structure.

If set to 1, the system copies items directly related to this level in a parent or component relationship. To copy all components related to this parent, including lower-level assemblies and raw materials, enter 0 (zero).

New Page Each Parent

Specify whether this report should print only one parent item per page. The default is No.

Yes: When the product structure for one item is printed, the printer advances to the top of the next page before printing the product structure for the next item.

No: Product structures for different parent items are separated only by a line feed.

Sort by Reference

Specify whether components are to be listed in sequence by reference code. The default is No.

Normally, component items are listed by component item number. However, if you set Sort by Reference to Yes, component items are sequenced by reference number and then item number.

Product Structures by Number

Filter

The Filter panel contains key information that includes a parent item and an operation. You can set a range of dates and a level for display. You may also choose whether to display only one parent per page.

Parent Item

A code identifying the parent item for this product structure or formula. For co-products and by-products, this is the base process code for the co-product and by-product structure.

The parent of a product structure or formula must be either a valid item number or a predefined BOM code.

Product structures and formulas are entered as parent or component relationships. A parent item may be a finished product, or some intermediate item. A parent item may also be a BOM code—allowing one structure to be set up and used to make multiple items or one item to have more than one structure.

Operation

A number identifying a step within a specific routing code for selecting a product structure.

Operations are uniquely numbered and sequenced steps within a routing. Each step is assigned an operation sequence number. Routing operations are always printed in ascending sequence. For example, operation 20 follows operation 10. Routing operations are accessed when a work order is created and printed.

As of Date

The effective date to use when selecting which parent or component relationships to display.

Parent and component relationships are defined as effective over a period of time. Effective dates phase in engineering changes and maintain product structure history online.

The default is the system date.

Levels

A value ranging from 1 to 99 that identifies the levels of parent and component relationships to include when copying a product structure.

If set to 1, the system copies items directly related to this level in a parent or component relationship. To copy all components related to this parent, including lower-level assemblies and raw materials, enter 0 (zero).

New Page Each Parent

Specify whether this report should print only one parent item per page. The default is No.

Yes: When the product structure for one item is printed, the printer advances to the top of the next page before printing the product structure for the next item.

No: Product structures for different parent items are separated only by a line feed.

Routing Update

This report allows you to maintain existing routings when standards change, or to update existing routings with any new default data from standard operations and work centers.

Filter

The Filter panel contains key information that identifies a routing code and an operation. You can select a work center, a machine, and a standard operation. You may also choose whether to update standard operation data and work center data.

Routing Code

A code identifying a set of routing or operations for the report.

Operation

A number identifying a step within a specific routing code to include in the report.

Work Center

A code identifying a work center to include in the report.

Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Machine

A code identifying a work center machine to include in the report..

The work center code and the machine code together identify a work center—a basic production unit used in manufacturing planning and control.

Standard Operation

A code identifying a process operation common to several products or applicable to different routings in different operation sequences.

Select a standard operation to include in the report.

Update New Standard Operation Data

Specify whether to change the selected routings to reflect the new standard operation information. The default is No.

This function allows you to review changes in standard operation information, and to, optionally, apply those changes to existing routings.

The report compares the operation information to the standards. Whenever the values do not match, you will see an asterisk (*).

Update New Work Center Data

Specify whether to change the selected routings to reflect the new work center information. The default is No.

This function allows you to review changes in work center information, and to, optionally, apply those changes to existing routings.

The report compares the operation information to the standards. Whenever the values do not match, you will see an asterisk (*).

Simulated Batch Ingredients

Filter

The Filter panel contains key information that identifies a parent item, an operation, and a product line. You can select a site, quantity, and effective date for this item.

Parent Item

A code identifying an inventory item that is to be considered by this function.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Operation

A number identifying an operation associated with the selected parent item for this function to consider.

Prod Line

The product line code that this item belongs to.

Product line codes identify major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Site

A code signifying where a parent item is located. Enter a site code to select an item for this report.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these within a specific domain.

Quantity

The quantity to use for this ingredient list.

The default is the item order quantity.

Discount quantities are calculated using this quantity. Each component is listed, along with the quantity required for the component.

As of Date

The effective date to use when selecting which parent or component relationship to display. Parent and component relationships are defined as effective over a period of time.

The default is the system date.

The effective date is useful for cost calculations, allowing you to make changes to the product structure effective in the future, and to then evaluate the cost effect of that change.

Simulated Picklist

Filter

The Filter panel contains key information that identifies a parent item, an operation, and a product line. You can select a site, quantity, and effective date for the picklist.

Parent Item

A number identifying the parent of a product structure or a formula to be considered by this function.

A parent item may be a finished product, or some intermediate item.

A parent item may also be a BOM code, allowing one formula to be set up and used to make multiple items or for one item to have more than one formula (perhaps for different batch sizes).

Operation

A number identifying a step within a specific routing code. Operations are uniquely numbered and sequenced steps within a routing.

Routing operations are always printed in ascending sequence. For example, operation 20 follows operation 10. Routing operations are accessed when a production order is created and printed.

Enter a number to select an operation for this function to consider.

Prod Line

A code identifying major item and product groupings that apply to selected parent items.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Site

A code identifying the place where selected items on the picklist are manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Quantity

The quantity to use for this picklist.

The default is the item order quantity.

Discount quantities are calculated using this quantity. Each component is listed, along with the quantity required for this component.

As of Date

The effective date for selecting which parent or component relationship to display. Parent and component relationships are defined as effective over a period of time.

The default is the system date.

The effective date is useful for cost calculations, allowing you to make changes to the product structure effective in the future, and to then evaluate the cost effect of that change.

Where Used

This report provides information on where an item or assembly is used in any product's structure.

Filter

The Filter panel contains key information that identifies a component item number and a level for the item. You can set a date for the report, and choose whether to display each component on a new page.

Component Item Number

A number identifying a component item in this product structure or a formula.

At each level of the product structure or formula, the component items include only those items used directly at that level.

As of Date

The effective date for selecting which parent and component relationship to display.

The default is the system date.

Levels

A value from 1 to 99 identifying the levels of parent and component relationships when copying a product structure. The default is level 99.

If set to 1, the system copies the items directly related to this level in a parent and component relationship.

Enter 0 (zero) to copy all components related to this parent, including lower-level assemblies and raw materials.

Note When deactivating a product structure, this field is set at 1 and display only.

New Page each Component

Specify whether to print every component item on a new page.

The default is No.

PCR/PCO Delete & Archive

The system does not automatically delete historical information at period or year-end. You can choose how frequently you want to delete this information. Your decision depends on how long you need to retain historical information in your database. Most companies keep historical data for at least one year or longer, depending on availability of disk space.

You should run this report twice. First, run the report with the Delete option set to No, and review it to confirm that you want to delete all the listed items. Then, run it with Delete set to Yes.

When you set Delete to Yes, product change orders and product change requests satisfying the selection criteria are deleted from the database.

If you set Archive to Yes, deleted data is copied to an ASCII file that can be reloaded. Otherwise, deleted data cannot be recovered.

When Archive is set to Yes, the system stores selected data in a file named ecYYMMDD.hst where ec is the record type and YYMMDD is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran the report earlier on the same day, the system adds the additional archived records to the end of the file.

The generated file has no internal label or content description. Keep a record of the file name and contents, in case you need to reload the data.

Note You cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Note The date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, in **Users**, temporarily change your country code to match that of the user who archived the data.

Define menu security for this program.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data in the report.

Number

Enter the range of product change order or product change request numbers to archive or delete.

ID

Enter the range of product change order or product change request IDs to archive or delete.

Domain

Enter the range of domains for selecting the product change orders or product change requests to archive or delete.

Delete

Indicate whether to delete the selected records or generate a report in simulation mode only by selecting one of the following options from the dropdown list:

- No: The selected records are not deleted. A report is generated.
- Yes: The selected records are deleted from your database and a report is generated.

If you set Archive to Yes when Delete is Yes, the selected records are copied to an ASCII file before deletion.

Archive

Indicate whether to archive the selected records by selecting one of the following options from the dropdown list:

- No: The selected records are not copied to an ASCII file.
- Yes: The selected records are copied to an ASCII file. The system creates a file name in the following format: xxYYMMDD.hst, where xx identifies the module code or record type and YYMMDD is the file creation date. If this file does not exist, it is created. If it does exist, records are appended to the end.

Detailed Report

Specify whether to display a detailed report of deleted or archived product change orders and product change requests by selecting one of the following options from the dropdown list:

- No: Detailed report is not displayed.
- Yes: Detailed report of deleted or archived product change orders and product change requests is displayed.

If you set Delete or Archive to No first, you can set this field to Yes to see detailed information about product change orders and product change requests before deleting or archiving.

Archive File

This is a system-maintained field that displays the archive file name in the form ecYYMMDD, where ec is the record type and YYMMDD is the creation date.

Affected Structures & Formulas

Settings Panel

The Settings panel contains the Format, Date Display, and Decimal Display subpanels, each with various report settings. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data in the report.

Item

Enter the parent item on the product change request or product change order.

Number

Enter the product change request or product change order number. This field is mandatory.

ID

Enter the ID for the product change request or product change order.

Domain

Enter the domain for the product change request or product change order.

The combination of Number, ID, and Domain uniquely identifies a product change request or product change order.

Effective Date

Enter the effective date for the product change request or product change order.

Levels

Enter the number of levels of the product structure to view in the report. If you leave this field blank, all levels are included.

Structures & Formulas Impact

Use the **Structures & Formulas Impact** QRF report to print the structure/formula effects of Product Change Control, with a summarized bill of materials. Information shown includes PCR/PCO number, ID, domain, type, design group, created by, creation date, title, reason, class, originator, user code 1 and 2, parent item, component items, an indicator for selected components of the structure or formula, item description, original quantity required, net change previously released PCO, net change for this PCO, and final quantity required.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data in the report.

Number

Optionally, enter a range of PCO or PCR to update or display. The combination of number, ID, and database uniquely identifies a PCR/PCO. Leave blank to include all numbers.

ID

Optionally, enter a range of IDs to display. The combination of number, ID, and domain uniquely identifies a PCR or PCO. Leave blank to include all IDs.

Domain

Optionally, enter a range of domain names to display. The combination of number, ID, and domain uniquely identifies a PCR or PCO. Leave blank to include all domains.

Type

Optionally, enter a range of types. Type is used to distinguish different kinds of PCOs and PCRs.

Every PCO and PCR must be assigned a valid Type and Design Group combination. This combination determines the routing slip, distribution group, and whether the engineering change is a PCO or a PCR.

Types are often set up to reflect differences in various criteria: severity, urgency, purpose, affected product lines, and approval routes are a few examples.

Leave blank to include all types.

Design Group

Optionally, enter a range of design groups. A design group is used to identify a group of users with design responsibilities. Design groups are defined with Product Change Control Groups

When creating a PCO or PCR, a valid Type and Design Group combination must be entered.

A Design Group can be specified for an item using, Items, or the Item Data panel in Product Change Orders. Leave blank to include all design groups.

Created by

Optionally, enter a range of user IDs from the individuals that created the PCOs and PCRs. Leave blank to include all users.

Creating a Structures & Formulas Impact Report

You can enter any combination of numbers, IDs, domains, types, design groups and user IDs ranges.

To create a Structures & Formulas Impact QRF Report:

1. In the engineering role menu, open the Engineering Change menu and select Structures & Formulas Impact QRF. Alternatively, in the search box, enter Structures & Formulas Impact.
2. In the Structures & Formulas Impact QRF report enter the applicable filter information.
3. Click **Run**.

PCR/PCO Types

The type code determines whether the change document is a PCR or a PCO, and determines the routing slip, distribution group, prefix, and number.

A valid type and design group combination must be entered for every product change created in Product Change Orders or Product Change Requests.

Defining document change types requires careful planning. Some criteria to consider are:

- Purposes of the PCO, such as to enhance safety, upgrade functionality, or reduce cost
- Product lines affected by the PCO
- Design areas affected by the PCO, such as electrical, mechanical, or pneumatic
- Approvals required for the PCO

PCR/PCO Types View

Summary Panel

The Summary panel displays the key data of the PCR or PCO type you are working on, including type and design group. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Type

Enter the type of change document. This field is mandatory. Type is used to distinguish different kinds of PCRs/PCOs. You must assign every PCR or PCO to a valid Type and Design Group combination. This combination determines the Document Type (Product Change Order or Product Change Request), Prefix, Routing Slip, and Distribution group. PCR/PCO types are often set up to reflect differences in various criteria. PCR/PCO severity, PCR/PCO urgency, PCR/PCO purpose, affected product lines, and approval routes are a few examples of criteria. Groups and routing slips must be set up prior to creating PCR/PCO Types.

Description

Optionally, enter a description for the document type.

Design Group

This code is used to identify a group of users with design responsibilities. This field is mandatory. Groups are created in Product Change Control Groups and consist of valid users created with Users.

When creating a PCR or PCO, a valid PCO Type and Design Group combination must be entered.

A design group can also be associated with an item using Item functions in Product Change Requests or Product Change Orders.

Design Panel

Document Type

Select whether this type is used for Product Change Requests or Product Change Orders. This field is mandatory

Prefix

Optionally, enter a prefix. This is a three-character prefix for document numbers, used to distinguish between different kinds of changes.

Prefixes and number sequences are defined in Engineering Control and used when Auto Number is Yes to determine the number for a new PCO or PCR. If you enter a prefix that is not set up in Engineering Control, a warning displays.

Routing Slip

Enter the routing slip associated with documents of this type. This field is mandatory. The routing slip is used to manage the approval process for a PCR or PCO. It determines the groups that must give their approval, severity levels, and whether the group can reroute the document. It also determines the users and groups to notify at submission and approval.

Distribution

Enter the group to be notified when documents of this type are released and distributed with Distribute changes. This field is mandatory.

Creating PCR/PCO Types

1. Go to **PCR/PCO Types**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the PCR/PCO Types View on page 2585.
4. Click **Save** to continue.

Modifying PCR/PCO Types

1. Go to **PCR/PCO Types**.
2. Select the row of your interest, and click **Edit** or double-click the row.

3. Edit the applicable information.
4. Click **Save** to continue.

Deleting PCR/PCO Types

1. Go to **PCR/PCO Types**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

PCR/PCO Detail

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Number

Enter a number identifying one of the following:

- Product Change Request (PCR) number
- Product Change Order (PCO) number

The combination of the number, ID, and domain uniquely identify a PCO or PCR.

ID

Enter an ID for the PCR/PCO. Each PCR/PCO can contain detailed records that define the engineering change in great detail.

The ID field allows multiple PCRs/PCOs to be created with the same PCR/PCO number for grouping purposes. ID can be used to break large or complex changes into several PCRs/PCOs.

The combination of the Number, ID, and Domain fields uniquely identifies a PCR/PCO.

Domain

Specify a domain name (in this or another database) for identifying this PCR or PCO. The combination of number, ID, and domain uniquely identifies a PCR or PCO.

This field is user defined. The system does not use it to perform any physical or logical linking to another domain.

Note PCOs can be exported and imported into any domain, regardless of the value specified for the domain. It is used for selecting records only.

Click **Run** to generate the report.

Product Change Control Groups

Specify these groups for design, approval, and distribution groups in various functions in the Product Change Control (PCC) module. The users added to PCC groups must be system users previously defined in Users.

When users are added to a group, you can specify a date when their membership expires. For users in distribution groups, you can also specify the number of copies of a Product Change Request (PCR) or Product Change Order (PCO) they should receive and the output device to be used. Users can also receive e-mail messages, based on the routing slip attached to a PCO or PCR.

You can also use Product Change Control Groups to delete an entire group.

Product Change Control Groups View

Summary Panel

The summary panel displays the key data of the product change control group, including the group field. This field is read-only and remains in view when you scroll down the page.

Main Panel

Group

Enter a group name. You set up groups for Product Change Orders and Product Change Requests routings and approvals in Product Change Control Groups. This field is mandatory.

Description

Optionally enter a brief description that identifies a group.

This field is intended to contain the full name of a group. Group descriptions are associated with the unique group name entered in the Group field.

Manually enter or change group descriptions. Enter a different description for each group to avoid confusion. Click **Save** to update the system.

Users Panel

User

Enter a user to be added to the specified group. Must be a valid user, previously defined in Users.This field is mandatory.

User Name

Displays the user name.

Expire Date

Enter the last date a user is considered a member of the group.This field is optional.

If you enter a date, the user's access to documents ends when the system date is greater than the expiry date. Use this field to assign a user or a substitute to a group on a temporary basis. If left blank, the user is permanently assigned to this group.

Copies

Enter the number of copies of a Product Change Order to be printed to the device specified for Output when a Product Change Orders is released and distributed.

The default is zero, indicating that no copies are printed. If copies are zero and the user has an e-mail address defined in Users, a message is sent.

Output

Enter the printer device to be used to generate a report when a Product Change Order is distributed to this user. If specified, the output device must be a valid network linked printer defined in Printer Details and copies must be greater than zero.

Creating a Product Change Control Group

1. Go to **Product Change Control Groups**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Product Change Control Groups on page 2589 view
4. Click **Save** to continue.

Modifying a Product Change Control Group

1. Go to **Product Change Control Group**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting a Product Change Control Group

1. Go to **Product Change Control Group**.
2. Select the row of your interest and click **Edit** or double-click.
3. From the toolbar, click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

PCR/PCO Print

The PCR/PCO Print to generate a complete display of all Product Change Order (PCO) or Product Change Request (PCR). The report prints in the following order:

- A header and status information for each PCO or PCR.
- Approval group detail.
- Item detail.
- BOM detail in indented format.
- Routing, process, and formula information.
- Item specification data.
- Notes.

The bill of materials section of the report prints only the PCO or PCR bill and includes the current quantity per from the product structure or formula record and the PCO quantity per. The UM and Issue Policy fields show data from the production records; Qty Type and Structure Type fields display data from the PCO records. DEACTIVATED prints in the PCO Quantity Per column for any components that have been deactivated on the bill. To view a summarized bill of materials, use Structures & Formulas Impact. To view PCOs or PCRs with blank statuses, set Pre-submission to Yes.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Number

Enter a range of PCOs or PCRs to print. Leave blank to include all PCOs and PCRs.The combination of number, ID, and database uniquely identifies a PCO.

ID

Enter a range of IDs for selecting PCOs or PCRs to print. Leave blank to include all PCOs and PCRs.The combination of number, ID, and domain uniquely identifies a PCR or PCO.

Domain

Enter a range of domain names for selecting PCOs or PCRs to display. Leave blank to include all domains.

The combination of number, ID, and domain uniquely identifies a PCR or PCO.

Type

Enter a range of PCR/PCO types to include. Leave blank to include all types. Types are used to distinguish different kinds of PCO and PCRs.

Every PCO and PCR must be assigned a valid Type and Design Group combination. This combination determines the number prefix, routing slip, distribution group, and whether the engineering change is a PCO or a PCR.

Types are often set up to reflect differences in various criteria: severity, urgency, purpose, affected product lines, and approval routes are a few examples.

Design Group

Enter a range of design groups to include. Leave blank to include all design groups.Design Groups are used to identify a group of users with design responsibilities.

When creating a PCO or PCR, a valid Type and Design Group combination must be entered.

A Design Group can be specified for an item in Items or the Item Data grid in Product Change Orders or Product Change Orders.

Created by

Enter a range of users to include. Leave blank to include all users.

Status

Enter a range of statuses to include. Leave blank to include all statuses. This is a user-defined field which can be used to indicate the PCR or PCO status.

User Code 1

Enter a range of user codes to include. Leave blank to include all users. PCRs and PCOs may be selected for reporting by the values entered for User Code 1 and User Code 2 in Product Change Requests and Product Change Orders.

User Code 2

Enter a range of user codes to include. Leave blank to include all users. PCRs and PCOs may be selected for reporting by the values entered for User Code 1 and User Code 2 in Product Change Requests and Product Change Orders.

Pre-submission

Specify whether or not to print PCRs or PCOs that have not been submitted. The default is No.

Submitted

Specify whether to print PCOs that have been submitted, but not approved. The default is Yes.

Approved

Specify whether or not to print PCOs that have been approved, but not released.The default is Yes.

Released

Specify whether or not to print PCOs which have been released, but not incorporated. The default is Yes.

Incorporated

Specify whether or not to print PCRs and PCOs that have been incorporated, but not implemented. The default is No.

Implemented

Specify whether to print PCOs that have been implemented. The default is No.

Closed

Specify whether or not to print PCRs/PCOs which have closed. The default is No.

Comment Page

Enter the beginning number in the range of comment pages to be included when PCRs/PCOs meeting the other selection criteria are printed.

Multiple comment records identified by type and reference can be attached to a change document. Each comment can include up to 99 pages. Use this field to limit the number of pages of comments to be printed during this execution of PCR/PCO Print.

This field is used in conjunction with the Text Order range fields, which determine the actual comment sets that print.

Text Order

Enter the beginning number in the range of comments to be included when PCRs/PCOs meeting the other selection criteria are printed.

Multiple comment records identified by type and reference can be attached to a change document. When comments are added in Product Change Requests and Product Change Orders, an order can be specified, defining the sequence in which comments display or print. Use this field to limit how many sets of comments should be printed

during this execution of PCR/PCO Print. If comments are ordered by priority, you may want to print only the most important ones.

This field is used in conjunction with the Comment Page range fields, which determine the number of pages of each comment set printed.

Approvals

Specify whether or not to print a listing of the approval groups and the current approval status.

Distributed

Specify whether or not to print a listing of the distributed groups.

PCO/PCR

Specify whether to print a list of Product Change Orders or Product Change Requests. Leave blank to print both.

Click **Run** to generate the report.

Product Change Control Groups by User

This function allows you to:

- Add a new user to one or more selected groups
- Replace a user with another user in all or selected groups
- Remove a user from all or selected groups

Product Change Control Groups by User View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the record you are working on, including the user. This field is read-only and stays in view even when you scroll down the page.

Main Panel

User

The user defaults from the selected record in the Product Change Control Groups by User browse.

Option

In the Option field, select:

- 1-Add User
- 2-Replace User
- 3-Remove User

Groups Panel

List Groups for User

Optionally, specify the ID of a user to display only groups to which this user belongs or leave blank to display all defined PCC groups to which the user being added does not currently belong. Specifying groups can be useful when defining one user's membership so that it resembles that of another user.

Note This field only appears when you select 1-Add User in the Options field.

Replace with User

Enter the user ID of the new user.

Note This field only appears when you select 2-Replace User in the Options field.

Note You can modify a user's attributes by specifying the same user in both User ID fields.

Expire Date

Optionally, specify a date when their membership in a group expires.

Copies

Optionally, for users in a distribution group, you can also specify the number of copies of a Product Change Request or a Product Change Order they should receive.

Output

Specify the output device to be used.

Groups Grid

The Groups grid displays group and description depending on the selection on the Options field in the Main panel:

- 1- Add User: The Groups grid displays all of the groups the user selected in the List Groups for User field does not currently belong to.
- 2- Replace User: The Groups grid displays all of the groups the user currently belongs to.
- 3- Remove User: The Groups grid displays all of the groups the user currently belongs to.

Add User with Product Change Control Groups by User

1. Go to **Product Change Control Groups by User.**
2. Select the user you want to modify and click **Edit**. Alternatively, double-click the record.
3. In the Main panel, select **1- Add User option**.
4. In the Groups panel, enter List Groups for User, and optionally enter the Expire Date, Copies and Output.
5. In the Groups grid, select the groups where you want to add the user.
6. Click **Save**.

Replace User with Product Change Control Groups by User

1. Go to **Product Change Control Groups by User.**
2. Select the user you want to modify and click **Edit**. Alternatively, double-click the record.
3. In the Main panel, select **2- Replace User option**.
4. In the Groups panel, enter Replace with User. Optionally, enter the Expire Date, Copies and Output
5. In the Groups grid, select the groups where you want to replace the user.
6. Click **Save**.

Remove User with Product Change Control Groups by User

1. Go to **Product Change Control Groups by User.**
2. Select the user you want to modify and click **Edit**. Alternatively, double-click the record.
3. In the Main panel, select **3- Remove User option**.
4. In the Groups grid, select the groups where you want to remove the user.
5. Click **Save**.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Approve Action

Use **Approve** action in **Product Change Requests** to approve or reject submitted product change requests (PCRs).

The action pop up window displays a list of documents that require approval. Access to the list of documents depends on how the Security field is set in **Engineering Control**. If the Security checkbox is selected, you must enter your password to access the list. The password must match the password defined in Users. Only users who belong to approval groups should have access to this function.

Note The User ID field defaults to the login ID of the current user. If you are using electronic signatures and signature functionality is enabled for this program, you cannot update the User ID field.

When the Enforce PCO Approval Group Sequencing checkbox is selected in **Engineering Control**, you cannot complete approval of a document if it has not yet been approved by a member of a group with a lower sequence number. Approval sequences are assigned to groups in **Routing Slips**. The same control setting also controls whether a group member can update the Approved field on a PCR or PCO if it has already been approved by a member of a group with a higher approval sequence.

If you reject the PCO or PCR and you belong to a group that can reroute rejected changes, you are prompted to enter a reroute level. If specified, all groups with a lower reroute number who previously approved the PCO or PCR will have their approvals cleared. An asterisk will also appear in the last column in the second frame to give visibility to any PCO or PCR that was rejected and rerouted.

Life Cycle

Product change requests are created in Product Change Requests. Once the PCR is complete, it is submitted for approval using Route for Approval action in Product Change Requests. It is approved (or rejected) using the Approve action. PCRs are usually converted into PCOs following approval using the PCO and PCR actions in Product Change Orders. PCOs are released and distributed following approval using the Distibute Changes action.

A warning message displays in Product Change Orders if you attempt to modify a submitted, approved, or released product change. Distributed PCOs cannot be modified.

Effects of Approval

Approval group, approval date, approval status, and the user ID of the approver are recorded as part of the PCO. This information can be reviewed using **PCR/PCO Detail** or **PCR/PCO Print**.

Once a PCO has been approved by all groups on its routing slip, it becomes visible to users using the Distibute Changes action, and its status changes to Approved in the Product Change Orders.

You can set any value you want for each field that records the approval detail.

Criteria Panel

Search Criteria

Indicates the search criteria used in the Product Change Request browse filter.

Options Panel

Next Only

Determines whether to display only those PCRs the approval group or user is next in line to approve.

If you select the checkbox, only PCRs approval group sequences with the next sequence only that the user has the access to should be included.

If you do not select the checkbox,all the PCRs approval group sequences to which the user has the access to should be included.

If this checkbox is selected, only PCRs approval group sequences for which the user has access to the next sequence should be included.

Unsigned Only

Determines whether to display only those PCRs that have not been approved.

If you select the checkbox, only those PCRs which have not yet been approved by the specified approval group or user ID will be displayed. If you do not select the checkbox, all PCRs which meet the other selection criteria will be displayed, even if they have been approved by the specified group.

Approval Group

Enter the approval group to identify a group of users with the authority to approve submitted PCRs.

If a PCR requires approval from an Approval Group, any one member of the group can approve it on behalf of the whole group.

Search Button

Click Search to populate the Content grid based on the settings in the Criteria and Options panel.

Content Panel

Approve

By-default the checkbox is selected to approve previously disapproved PCOs.Clear the checkbox to disapprove previously approved PCOs.

Re-Routing Level

Enter the re-routing level used when rejecting a PCR. If the group performing the rejection has the authority to reroute, the value entered here defines the level to which the PCR will be rejected.

Number

Displays a number to identify a change document that requires approval. This is a read-only field.

If the document is a PCR, it is uniquely identified by concatenating the Number, ID, and Database fields.

Title

Displays a brief description of the PCR. This is a read-only field.

Approval Group

Displays the approval group that identifies a group of users with the authority to approve submitted PCRs. This is a read-only field.

Sequence

Displays the sequence of the PCR. This is a read-only field.

By Re-Route

By default this checkbox is cleared. The system automatically selects this based on the user-provided re-routing level.

Using the Approve Action

Use the **Approve** action in **Product Change Requests** to approve or reject submitted PCRs. To complete this action, follow these steps:

1. In **Product Change Requests**, use the filter to refine the displayed PCRs.
2. Go to Actions>Bulk>Approve. The **Approve** action view appears.
3. Enter the applicable information.
4. Click **Submit**, to complete the action.

Change PCR Number Action

You can use the **Change PCR Number** action in Product Change Requests to modify existing PCR numbers. This ensures that any updates to PCR numbers are accurately reflected and stored within the system. If you enter an incorrect PCR number, you can initiate a corrective action by modifying the number through this action.

Main Panel

From Number

The number of the existing Product Change Request (PCR). Defaults from the selected record in the Product Change Request browse. This is a read-only field.

From ID

The existing ID for the PCR. Defaults from the selected record in the Product Change Requests browse. This is a read-only field.

The combination of the Number, ID, and Domain fields uniquely identifies a PCR. Each PCR can contain detail records that define the engineering change in great detail.

From Domain

The domain name for identifying the existing PCR. Defaults from the selected record in the Product Change Requests browse. This is a read-only field.

The combination of number, ID, and domain uniquely identifies a PCR.

Note PCRs can be exported and imported into any domain regardless of the value specified for Domain. It is used for selecting records only.

To Number

Enter a valid Product Change Request (PCR) number to change the existing PCR number.

If you leave this field blank and the Auto Number checkbox is selected in Engineering Control, the system creates a number based on the prefix and next number associated with the PCR type and design group.

If the Auto Number checkbox is not selected in Engineering Control, this field is mandatory.

The combination of the number, ID, and domain uniquely identify a PCR.

To ID

Enter an ID for the new PCR. The combination of the Number, ID, and Domain fields uniquely identifies a PCR. Each PCR can contain detail records that define the engineering change in great detail.

To Domain

The system defaults to PCR, but you can add an optional domain name to identify the new PCR. The combination of number, ID, and domain uniquely identifies a PCR.

Note PCOs can be exported and imported into any domain regardless of the value specified for Domain. It is used for selecting records only.

Using the Change PCR Number Action

Use the **Change PCR Number** action in **Product Change Requests** to modify existing PCR numbers. To complete this action, follow these steps:

1. In **Product Change Requests**, use the filter to refine the displayed PCRs.
2. Go to Actions > Individual > Change PCR Number. The **Change PCR Number** action view appears.
3. Enter the applicable information.
4. Click **Submit**, to complete the action.

Close PCR to PCO Action

The **Close PCR to PCO** action allows you to close a Product Change Request (PCR) by linking it to an existing Product Change Order (PCO). This action serves to transition or merge the original PCR (From PCR) into a target PCO (To PCO), thereby officially closing the original PCR. This is typically performed when items initially managed under one PCR need to be continued or consolidated under a different PCO.

Main Panel

From Number

Displays by default the PCR number selected in Product Change Requests.

From Title

Displays by default the PCR title selected in Product Change Requests.

From ID

Displays by default the PCR ID selected in Product Change Requests.

From Domain

Displays by default the PCR domain selected in Product Change Requests.

To Number

Enter the PCR number to be used for this function.

Specify the destination number to be used for this copy function. The selected aspects of the source PCR are copied to the destination number.

The combination of number, ID, and database uniquely identifies a PCR.

To PCO Title

Displays by default the title of the selected PCO.

To ID

Enter an optional PCO ID.

Enter an optional ID for selecting records to display or update.

To Domain

The system defaults to PCO, but you can add an optional domain name to identify the PCO. The combination of number, ID, and domain uniquely identifies a PCR.

Note The Domain field is user defined and not validated. The system does not use it to perform any physical or logical linking to another domain.

Using the Close PCR to PCO Action

Use the **Close PCR to PCO** action in **Product Change Requests** to close a PCR by linking it to an existing PCO. To complete this action, follow these steps:

1. Go to **Product Change Requests**.
2. Go to Actions > Individual > Close PCR to PCO. The **Close PCR to PCO** action view appears.
3. Enter the applicable information.
4. Click **Submit**, to complete the action.

Route for Approval Action

Use the **Route for Approval** action to place Product Change Requests (PCRs) into the approval cycle.

Product Change Requests (PCRs) are created in the Product Change Requests view. Once the PCRis complete, it is submitted for approval using the Route for Approval action. It is approved or rejected using the Approve action. PCRs are usually converted into PCOs following approval using the Convert PCR to PCO action in the Product Change Requests browse. PCOs are released and distributed following approval using the Distribute Changes action.

A warning message will appear in Product Change Requests if you attempt to modify a submitted, approved, or released order. Distributed PCRs cannot be modified.

Once a PCR is submitted, it becomes visible to users using the Approve action. Its status changes to Submit in PCR & PCO Status, and a submission date is attached to it.

Submitted PCRs can be unsubmitted by running the Route for Approval action with the Unsubmitted Only checkbox unselected, and then unselecting the Submit for Approval checkbox for the record in the Contents grid. If anyone has approved the PCR, you will not be allowed to unsubmit it. The approval must be reversed in the Approve action before it can be unsubmitted.

Criteria Panel

Search Criteria

Indicates the search criteria used in the Product Change Requests browse filter. This field is view only.

Options Panel

Unsubmitted Only

Determines whether to show all PCRs that meet the selection criteria or only those which have not been submitted. Checked by default.

Search Button

Click Search to populate the Content grid based on the settings in the Criteria and Options panel.

Content Panel

Submit for Approval

Select this checkbox to submit the PCR for approval.

Number

Displays the number uniquely identifying a PCR, usually the document number or drawing associated with it. The combination of number, ID, and domain uniquely identifies a PCR.

You can select and sort most reports by number.

ID

Displays the ID for the PCR. The combination of the Number, ID, and Domain fields uniquely identifies a PCR. Each PCR can contain detail records that define the engineering change in great detail.

The ID field allows multiple PCRs to be created with the same PCR number for grouping purposes. ID can be used to break large or complex changes into several PCRs.

You may want to break a large engineering change into many PCRs to use appropriate approval cycles or to ease implementation.

Domain

Displays the domain name (in this or another database) for identifying this PCR. The combination of number, ID, and domain uniquely identifies a PCR.

Title

Displays a brief description of the PCR.

Created by

Displays the person who created this PCR. This field is for reference only and may appear on some selected reports.

Using the Route for Approval Action

Use the **Route for Approval** action in **Product Change Requests** to place product change orders (PCRs) into the approval cycle.

1. In **Product Change Requests**, use the filter to refine the displayed PCRs.
2. Go to Actions > Bulk > Route for Approval. The **Route for Approval** action view appears.
3. In the Options panel, select or unselect the **Unsubmitted Only** checkbox as required and click **Search** to populate the Contents grid.
4. In the Contents panel grid, select the **Submit for Approval** checkbox for the PCRs you intend to route for approval.
5. Click **Submit**, to complete the action.

Inventory

Inventory manages the materials used in production processes.

Locations

A location can include shelves, bins, tanks, lots or other storage areas. Each location's parameters identify what can be stored there and how that inventory can be used.

Each time you perform an inventory transaction, such as an issue, receipt, or transfer, you must specify both a site and location. Use **Items** to define default sites and locations for individual items. Use Item Site Inventory Data to assign site-specific locations to an item. When considering location defaults, the system searches for a site-specific record first. If the record does not exist, location defaults from the Items view.

A site can have an unlimited number of locations. Although the system permits the use of blank location codes, this is not recommended.

Note The Transfer Ownership field is active only if you are using the optional Supplier Consignment Inventory module.

When establishing a naming convention for location identifiers, consider the picking order specified in Inventory Control. When items are picked by location code, work order and sales order picklist functions check locations in ascending or descending order, according to the Inventory Control setting. Because of this, numeric location codes such as 1000, 1100, and 8000 are recommended. If you use significant codes and allocate in ascending order, the system checks locations in alphabetical order; for example, Inspect would come before Storage.

Permanent/Temporary Locations

Locations can be defined as permanent or temporary. When you define a location as permanent, the system maintains all location detail records for that site/location until they are deleted using Zero Balance Delete/Archive. Since detail records are maintained, locations with zero balances appear on reports.

If you define a location as temporary, the system automatically deletes inventory detail records when the location's balance falls to zero. It does not delete the location code. Since zero balance locations do not have detail records, they do not appear on reports.

Note If you assign the Location to a Warehouse Location and define it as permanent, the permanent checkbox cannot be unchecked, and the Location cannot be deleted.

Automatic Locations

The system can automatically create location codes whenever you enter an undefined value. Do this by selecting Automatic Locations in the **Sites** view. This option is useful if you frequently need to define a new location while entering a transaction.

Note The system automatically creates new location codes without verification. This means that you can inadvertently create a new location code from a typing error. For example, if you type STWCK instead of STOCK, the system creates a location code called STWCK.

If a site has a complex network of storage locations, automatic locations may be a useful feature. An alternate approach is to set up your main locations in **Locations** and to define sub-locations using the Reference field in the Inventory Detail view.

Location Types

Some items require special storage conditions such as temperature control or sterile environments. Storing these items in an inappropriate location can cause inventory to become unusable. Location type codes enable you to control the type of inventory stored in a location.

Specify the type code for a location in **Locations**. Then, identify the items that require this type of storage by specifying the same type code for them in **Items**.

When the item is received, transferred, or counted using a cycle count or a tag count, the system verifies that the type associated with the location and item match. If the types do not match, an error displays and the transaction cannot be processed. This is useful for items with special storage requirements such as temperature or humidity. The location type can indicate this and comments can describe the exact requirements.

Single Item Locations

Some locations can be used to store different types of the same kind of material. For example, a vat may contain any kind of liquid, such as olive oil, ammonia, or acetic acid. However, at any one time, you only want one type of liquid in that location.

Define these locations as single-item locations by selecting the Single Item check box. When a location is designated as a single item location, it can only have an on-hand balance for a single lot of one item at a time.

Note Single item applies to lot reference also, if it is used.

Physical Address

In some business environments, formal shipping documents must accompany any movement of goods between distinct addresses. While this typically occurs between two sites, locations within a site can also have distinct physical addresses. When two locations involved in a transfer have different addresses defined in **Locations** and the proper shipping groups and inventory movement codes are defined, you are prompted to create a shipper in the transfer functions.

Customer Reserved Locations

Customer Reserved locations let you dedicate inventory to a specific customer or customers to ensure an adequate supply for sales orders.

Click New in the Customer Reserved panel to assign reserved locations to specified customers.

Select a customer address from the lookup and indicate whether this location is the customer's primary location; also specify whether detail allocations should normally be created. The primary location always defaults on new sales quotes and orders. Each customer can have only one primary location at a site, but you do not need to designate any reserved location as primary.

When you create a sales order for a customer with a reserved location, the reserved location defaults during line-item entry. For other customers, the system automatically blocks sales order line-item entry or shipment from a reserved location.

Note When doing general allocations in **Sales Orders**, the system does not update location detail records for locations with inventory status codes that have Available set to No—the recommended setting for reserved locations. In these cases, entering subsequent sales orders for the same item in non-reserved locations may display an incorrect quantity available to allocate at the bottom of the Order Lines panel. Select Detail Allocate in the Customer Reserved panel to avoid this situation.

The system does not prevent you from reserving the same site and location for multiple customers. You must ensure that only appropriate customers are assigned to reserved locations. Use Reserved Location Browse and Report to monitor customer associations with reserved locations.

Reserved Locations and Inventory Status Codes

You can manage inventory in a reserved location by assigning the appropriate inventory status code to the location.

Note Since all inventory detail records in the location must have the correct status code, you should create new locations for the reserved inventory.

Set up the status code in Inventory Status Codes before assigning it to the new location in the Locations view:

- Set Available to Allocate to No. This prohibits allocating inventory from reserved inventory to undesignated customers. This setting does not affect customers who have been assigned a reserved location.
- Set Nettable to No. This excludes reserved inventory from Materials Requirement Planning (MRP) functions. Otherwise, the system counts reserved inventory in its planning functions, and inventory shortages for other customers may occur.

- Set Overissue to Yes or No, depending on your inventory management policy on issuing inventory from a location that has a zero or negative inventory balance.
- Set up restricted transactions for all non-sales order transactions. This prohibits non-sales order transactions for reserved locations inventory. For example, apply restrictions to work order component issue, DRP shipments, RMA shipments, issue and receipt transactions, and others that may allow other order functions to access reserved-location inventory.

Effect of Reserved Locations in Sales Order Functions

When an item is entered on a sales order, the default location is normally the one associated with the item in the Items view. When reserved locations exist for the order customer, a new method is used to determine the default location.

The system checks for reserved location records for the ship-to customer address, then the sold-to address, and finally the bill-to address. If a record is found with Primary set to Yes, this location is used as the default. If reserved locations are defined for one of the order address records but none are designated as primary, the first reserved location found alphabetically within the site is used as the default.

Main

The Main panel contains the parameters that allow you to identify what can be stored in the location and how that inventory can be used.

Site

The site where this storage location can be found. All inventory balances are maintained by site and location. Since inventory locations are a subset of site, the same location codes may be used for different sites. All inventory information is accessed and displayed using both site and location code.

Location

Location defaults from the browse selection. Location codes identify physical locations where inventory is stored. Every item in inventory is associated with a location. A given item may be stored in multiple locations.

Description

A short description of this location code, usually describing where to look for it. The description prints on most reports and inquiries, as space permits.

Inventory Status

The usual status of inventory held in this location. Inventory status codes determine whether specific inventory balances on hand are

available for allocation to sales orders or work orders, are considered available by MRP, and are allowed to go negative.

Inventory status codes also restrict particular transactions at specific locations. You can restrict issues from an inspection location. Inventory status codes are assigned when items are received by inventory. They can be changed using the Inventory Detail view . PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Project

Optionally, specify a valid, active general ledger (GL) project code to associate with this location.

When you enter or change the project value for a location with inventory, the system displays a warning.

Project locations are typically assigned a default inventory status that is:

1. Non-nettable. This prevents planning functions such as Material Requirements Planning (MRP) from considering items in project locations as a source of supply.
2. Does not allow overissues. Order enough items in advance using MOs or project purchase orders so that a sufficient quantity is on hand in the project location when you record activity against the project.

Location Type

Enter a code that identifies the type of this location.

Locations are categorized by type and each item can also be assigned a specific location type in **Items**, Item Inventory Data , or Item Site Inventory Data . When the item is received, transferred, or counted using a cycle count or a tag count, the system verifies that the type associated with the location and item match. If the types do not match, an error displays and the transaction cannot be processed.

The location type is useful for identifying items with special storage requirements such as temperature or humidity. The location type can flag these conditions and comments describe the exact requirements.

Capacity

The capacity of this inventory storage location, in terms of the capacity unit of measure. This field is for reference only and may appear on some selected reports and inquiries.

Capacity UM

The unit of measure in which the location capacity is expressed. This field is for reference only and may appear on some selected reports and inquiries.

Physical Address

Use the lookup and select the company address that represents the actual physical address of the location. This address is used to generate shipper documents for inventory transfers between locations that are physically separated.

Date Created

The default is the system date. The date this location was created. This may be the date it was entered into the system or the date it was put into use. This field is for reference only and may appear on selected reports and inquiries.

Permanent

Select whether inventory location detail records in this location are permanent or temporary.

Clear this check box so that the inventory location detail records are temporary. These records are deleted by the system when the on-hand balance is brought to zero (0) for the combination of item, site, location, lot or serial number, and reference number.

Select this check box so that the inventory location detail records are permanent and retained in the system, even when the balance on hand is zero.

Note This setting has no effect on the location itself; the system never automatically deletes locations, regardless of whether they contain inventory or not.

Use temporary locations to keep inventory reports at a reasonable length, particularly when you have lot/serial controlled items with zero balances. When a location is defined as permanent, all location details are maintained in the system until they are deleted using Zero Balance Delete/Archive.

You may want to use permanent inventory locations when items have fixed or designated stocking locations. For example, a particular resistor is always stored in a specific bin location. In this case, you want to see the information on reports and inquiries, even when the balance is zero.

Note If you assign the Location to a Warehouse Location and define it as permanent, the permanent checkbox cannot be unchecked, and the Location cannot be deleted

Single Lot/Reference

Select whether more than one lot/ref number of the same item may be stored in this location.

Select this check box to prevent receipt of more than one lot/serial number into a location. This check box is selected for positive receipt, negative issue, and cycle count adjustment transactions. It is not

selected when counting tags or updating inventory balances using Physical Inventory. There are several reasons for this:

1. Live inventory balances may change after a tag is counted.
2. When updating inventory from tag records, there may be several offsetting tags that could be rejected in error when they are processed in a particular sequence. This approach could prevent counts from being corrected.

Negative receipt and positive issue transactions can permit a user to reverse a previous receipt. This step can result in additional inventory records with negative balances to be created for a location that is defined as Single Item or Single Lot/Ref.

This is especially useful in situations where ingredients are stored in tanks or silos and must never mix. Or, when different dye lots, potencies, or grades of an item should not be mixed.

Transfer Ownership

When the Supplier Consignment Inventory module is activated, you can indicate how consigned inventory should be managed when it is transferred to a specific location. The value defaults from **Sites**.

Select this check box so that receiving inventory into the location initiates a transfer in ownership. To track the ownership change, RCT-PO and CN-ISS transactions occur, in addition to the inventory transfer and receipt. The supplier can now invoice you for the inventory and general ledger accounts that are updated.

Clear this check box so that inventory received into the location retains its consigned status.

When the Supplier Consignment Inventory module is not active, the Transfer Ownership field is disabled.

Transfer of ownership occurs automatically when consigned inventory is issued to work orders, sales orders, or final assembly orders and when unplanned issues occur. Ownership transfer is optional during inventory transfer.

Customer Reserved

Address

The customer or ship-to address.

Name

The name of the customer or ship-to address.

Primary Location

Select this checkbox to designate this location as the primary reserved location for the customer at the selected site. Otherwise, unselect. A customer can have only one primary reserved location at a site.

If another location is designated as primary and you select this field, the system displays a confirmation message indicating that the address already has a primary reserved location. Click Confirm to change the primary location.

The setting of this field affects how the system determines a default inventory location for new sales orders and quotes for this customer:

- If selected, this location is used as the default.
- If reserved locations are defined for the customer, but none are designated as primary, the first location found alphabetically within the site is used as the default.
- If no reserved locations are assigned to the customer at the site, the location associated with the order line item in **Items** defaults.

Detail Allocate

Specify whether the system automatically generates detail allocations on sales orders for this customer from this reserved location.

- Selected (default). When creating sales orders, the system forces detailed allocation of the reserved inventory. This ensures that quantity-to-allocate calculations are correct for the same item in non-reserved locations.
- Unselected. The system does not automatically generate detailed allocations.

It is recommended that you select this field. During general allocation, the system does not update location detail records for locations with inventory status codes that have Available unselected, which is the typical setting for a reserved location. In these cases, entering subsequent orders for the same item in non-reserved locations can display an incorrect quantity to allocate. Selecting Detail Allocate avoids this situation.

Inventory Detail

The regulatory attributes that can be reviewed or modified include: Inventory Status, Expire Date, Grade, and Assay %. When items are received into inventory, they are assigned Assay %, Grade, Expire Date, and Inventory Status. There are three ways to assign inventory attributes:

- They are preset using attribute default settings.
- They are set at the time of receipt using the Chg Attributes field in receipt functions.
- They are modified using **Inventory Detail** or the **Inventory Detail** > Bulk Edit action.

Separate inventory attributes are stored for each combination of site, location, item number, lot/serial, and reference. This function changes inventory attributes for a specific item number at a particular site and location. In many cases expire date is changed using a formal recertification process. Use functions in Quality Management rather than changing the date in the Inventory Detail view. A complete audit trail of all inventory transactions is maintained in transaction history (tr_hist). These can be reviewed using the Inventory Transactions view. Each transaction is identified by a transaction number and a transaction type. Two transaction types, ISS-CHL and RCT-CHL, maintain records of the original attributes and the new attributes. You should define menu security for this program to restrict access.

Main

Item

The item this inventory detail information relates to.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Identifies this inventory quantity's location.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

The lot/serial number associated with this inventory quantity.

The Lot Control value for the item determines if a lot or serial number is required. The Lot Control value, which is set in **Items**, is used as the default for all sites. Set up site-specific values in the **Items**> Site panel. For more information on the Lot Control setting, see the field definition for Lot Control.

Reference

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Result

Displays whether an item is Conforming or Non-Conforming. When Non-Conforming, this field turns red so that users can easily see which items have attributes that are Non-Conforming.

- **Blank**. Inicates that none of the attributes have values that have been entered or that there are no item attributes associated with the item.
- **Conforming**. The result when all of the attribute specifications (Validation = Yes) for the item have conforming attribute values and all of the attributes (Required = Yes) have been entered.
- **Non-Conforming**. The result when any of the attribute specifications (Validation = Yes) for the item have non-conforming attribute values and all of the attributes (Required = Yes) have been entered.

Location Quantity

Quantity at selected location.

Quantity Allocated

The total quantity to be allocated for this item in this site, location, lot/serial, and lot reference. The quantity unit of measure is the same as the item unit of measure. For serial-number controlled items, quantity must be 1 or -1.

Quantity allocated cannot be greater than the quantity required.

Component items are automatically allocated by the system when the production order status is changed to A, for allocated. These are general allocations, reserving components for this order by reducing the quantity available to allocate. The items are not physically picked or issued, just flagged as allocated. When inventory status displays, the quantity available to allocate appears with the quantity on hand. This is useful for preventing sales orders from being taken for component items needed by manufacturing. Other production orders could be processed, since production order allocations are not restricted by quantity on hand or available.

There are two types of allocations: general and detail. General allocations allocate the required quantity of an item. Detail allocations specify the site, locations, lot/serial numbers, and lot references from which that quantity is to be allocated.

The system automatically generates detail allocations when sales order, distribution order, or RMA packing lists and work order picklists print.

Frozen Loose Quantity

The frozen loose quantity is the quantity of items that are not in packs residing at a location when the snapshot of inventory balances

is taken. During the Physical Inventory process, a snapshot of inventory balances is taken in the system for counting purposes. After counting how many items are physically in the location, the system compares that quantity with the frozen quantity as well as any inventory transactions that have occurred to justify any differences.

Freeze Date

The date when the Physical Inventory snapshot was taken of the inventory balance for the item, site, location.

Shelf Life

The number of calendar days that this item can be held in inventory before it becomes unusable. Shelf life is typically defined for items that spoil or degrade over time.

Regulatory Attributes

Inventory Status

Enter the inventory status code to associate with this inventory quantity.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Set up inventory status codes in **Inventory Status**.

Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- The production order or PO Receipt Status settings in **Items**.
- Settings in **Inventory Detail**.
- The default inventory status for the receiving location or site, set up in **Locations** or **Sites**.

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers.

You can apply field security to this field to restrict access.

If you do not have access to the Inventory Status field (ld_status), transferred items must assume the default inventory status of the transfer-to location. In this case, you must respond Yes to the "Use to status?" prompt. For example, a restricted user transferring items from location 100, with a default inventory status of GOOD, to location 200, with a default inventory status of INSPECT, cannot have the transferred items retain the GOOD inventory status.

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

1. For the item and site in the **Items** > Site panel > Site Inventory Exceptions grid.
2. For the item in the **Items** > Inventory panel.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Grade

The grade associated with this inventory quantity. Usually identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade may be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Assay %

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade may be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from

existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Issue Unplanned Action

To perform an unplanned issue, select the item in the Inventory Detail browse and select Actions > Issue Unplanned. In the Issue Unplanned modal, fill out the required information in the fields.

To perform an unplanned issue on multiple items, click New to add additional rows to the grid and then fill out the required information in the fields.

Once you have entered all the required information, click Submit.

Note For Memo and Expense items, the inventory issued will not be visible in the **Inventory Detail** browse.

Multi-Entry

Use the Multi-Entry option to issue multiple lot/serials for an item. In the Line Multi-Entry modal, enter the Site, Location, Lot/Serial, Reference Number, and Quantity. When the entire transaction quantity has been entered, click OK to return to the Issue Unplanned modal. The quantity to process is updated to reflect the total entered in the Multi-Entry modal.

About Issue Unplanned

Use the Issue Unplanned action to register an issue not involving any open sales, purchase, manufacturing, or quality order. An issue reduces inventory quantity for an item at the designated sites and locations.

Use the Issue Unplanned action to record miscellaneous inventory issues such as floor stock items sent out to production or materials sent to engineers for building prototypes or testing. You can also register the issue of materials to a manufacturing order that has been closed for accounting purposes.

To record transfers, use the Transfer action instead of the Issue Unplanned and Receive Unplanned actions. The Transfer action maintains complete lot/serial traceability.

When you use Issue Unplanned to issue inventory that is packed and the packed items are serialized, the system displays an error and prompts you to use the Pack Issue program on the Serialization menu.

If you allow overissue, an issue can cause the inventory balance for an item to go negative. This is controlled by the inventory status assigned to each inventory detail record.

Inventory Effects

The system maintains a complete audit trail of inventory transactions in transaction history (tr_hist). Inventory transactions can be reviewed in the Inventory Transactions hybrid view. Each transaction is identified by a transaction number and a transaction type. The transaction type is ISS-UNP.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using Operational Transaction Post. Review unposted transactions with Unposted Transaction Register. Transactions:

- Debit the account defined for the selected inventory movement code. If no inventory movement code is selected or there is no account defined for the selected inventory movement code, then it debits the Cost of Production account defined in Production Order Accounts for the product line and site. You can change this account, as needed.
- Credit the Inventory account defined in Inventory Accounts for the product line, site, and location.

Corrections

To reverse an Issue Unplanned transaction for an item, perform the Receive Unplanned action for that item.

Implementation

During implementation, use unplanned transactions to substitute for inventory transactions in modules not yet implemented. For example, use Issue Unplanned in place of Sales Order Shipments until the Sales Orders/Invoices module is implemented.

After the module is implemented, use its functions, since unplanned transactions do not update all the records that functions in other modules do, such as invoicing, history, and costs.

Main

Item

Enter a code identifying an item that you stock in inventory, purchase, manufacture, sell, or service. Item codes can identify raw materials, purchased or manufactured intermediates, finished items, packaging materials, planning items, configured products, service kits, and repair parts used in service activities.

If you have multiple sites, you can set up site-specific planning, inventory, and cost data for items in the various item-site functions.

However, item engineering information such as type, group, product line, and description, is the same for all sites. If engineering data differs based on sites, you must create different item numbers.

Most reports can be selected and sorted for ranges of item codes.

Description 1

The primary description of this item (up to 24 characters). You can use the primary description to look up item codes. The first description line appears on all reports, inquiries, and printed documents.

Description 2

The second line of description of the item. Provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Quantity

The total quantity processed on this inventory transaction. This is the quantity taken out of stock.

Normally issues should be processed against a valid order—sales order or manufacturing order. You can apply field security to this field to restrict access.

The Quantity can be a positive or negative value:

- If the item is a Serial (S) controlled item and the Multi Entry option is set to No (no additional items are entered in the Multi Entry grid), the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or - 1 . Please re-enter".
- If the item is a Serial (S) controlled item and the Multi Entry option is set to No (no additional items are entered in the Multi Entry grid), the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or - 1 . Please re-enter".

UM

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in **Generalized Codes**, if any.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system

displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Note Use the Multi-Entry option to enter more than one site on the inventory transaction.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Note Use the Multi-Entry option to enter more than one location on the inventory transaction.

Lot Control

The Lot Control value for the item determines if a lot or serial number is required. The value, which is set in the Items view, is used as the default for all sites. Set up site-specific values in the Site panel in the Items view.

Lot Control values include:

- Blank: The Lot/serial numbers are not required, although they can be recorded as needed.
- L: Lot numbers are required for this item. During issues and receipts, a lot number must be entered. The lot number applies to the entire transaction quantity entered.
- S: Serial numbers are required for this item. During issues and receipts, a unique serial number must be entered for each item. For example, if you receive 10, you must enter 10 serial numbers.

The system maintains complete lot/serial number traceability. The Lot Actual Bill Inquiry lists all the lot/serial numbers of components and raw materials used to make a given lot/serial number. Lot Where-Used Inquiry lists all the places that an individual lot/serial number was used, all the way to the end customer.

For manufactured items, lot numbers can optionally be assigned by the system by setting Automatic Lot Numbers to Yes. When the item is received into inventory using a production order receipt function, the lot number is set to the work order lot ID.

If you are using Regulatory Attributes, stricter levels of lot and serial control are available. You can also generate lot numbers based on a pattern specified in the Lot Group field.

Note You cannot modify this value from blank to S or L if a quantity of the item already exists in inventory.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required. Please re-enter". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]. Please re-enter".

Note Use the Multi-Entry option to issue multiple lot/serials for an item.

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Note Use the Multi Entry option to issue items with multiple reference values.

Multi Entry

Indicates whether this transaction references multiple sites, locations, lot number, serial numbers, or lot reference numbers. When the Multi-Entry option is used to enter multiple lot/serials to issue for an item, this field automatically changes to Yes. If you then change this field to No after using the Multi-Entry option to select multiple lot/serials for an item, the system will delete the multiple lot/serials that were selected in the Multi-Entry modal. By default, this field is set to No.

The system creates an individual transaction history record for each transaction line. The total of all lines is used to update the inventory balance.

Unit Cost

This value defaults from the setting in **Items** > Site panel > Site Cost Exceptions sub-panel; otherwise, it defaults from the setting in **Items** > Main panel > GL Cost subpanel.

Total Lot/Serial Quantity Entered

The total number of lot/serials that have been specified for the item in the Multi-Entry modal.

Total Cost

This value is automatically calculated as follows: Total Lot/Serial Quantity Entered * Unit Cost.

Order

Enter the order number associated with this inventory transaction.

When you create an unplanned inventory transaction manually, you can enter an order number for the record. Inventory transactions created by other functions, such as Sales Orders, automatically reference the order number in transaction history. You can use order number to select records to include on some reports and inquiries.

Order number can be a sales order number, production order number, purchase order number, RMA/RTS number, or any other user-defined value. An order number entered on an unplanned inventory transaction is typically for reference. The system does not access this information from other modules. If you enter a production order number on an unplanned issue, it does not appear on the Production Order Costs report.

The system does, however, validate order lines against inventory transactions when you are using Customer Consignment Inventory. When the system identifies inventory that is consigned or when not enough non-consigned inventory exists to fill your order, an error message displays. For customer consigned inventory, use sales order or consignment shipping and usage programs to create inventory transactions.

Line

The line item number associated with this inventory transaction.

When an unplanned inventory transaction is processed, you can manually enter an order line item for the record. When an inventory transaction is processed in another module, the order number and line item remain in transaction history. This field is for reference only and may appear on some selected reports and inquiries.

The system performs the following validations on the order and line:

- If the order and line are found to be a customer consigned Sales Order and the Item does not match the Sales Order Line, the

system prevents the receipt from completing and the following error is displayed: "Matching order line item for this part not found." (msg 8285)

- If the order and line are found to be a customer consigned Sales Order and the Item matches but the receipt is for a negative quantity, the system prevents the receipt from completing and the following error is displayed: "Unable to issue/receive consigned inventory." (msg 4937)

Sales/Job

Enter an optional code associating this inventory transaction with a particular unit of work.

Sales/job numbers can be referenced on sales orders, purchase orders, production orders, intersite requisitions, and inventory transactions. The sales/job number is stored in transaction history, letting you review the progress of activities associated with a particular sales order, contract, or job number.

Sales/job numbers are not validated and have no GL effect. Use project code to record the cost of a particular job in the GL.

Address

An optional address code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier.

When an unplanned inventory transaction or inventory transfer is processed, you can manually enter an address code for the record. When an inventory transaction is processed in another module, such as sales, the customer address code is kept in transaction history.

This field is for reference only and appears on various reports and inquiries. Some reports and inquiries can be selected by address code.

Remarks

Specify brief remarks (up to 10 characters) associated with this transaction.

Usually these identify the source or the reason for the transaction—for example, the document number associated with an unplanned transaction. When transactions are recorded in other modules, such as sales, the system sometimes stores information (the packing list or invoice number) in the remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances: a production order does not increase the balance in the general ledger inventory account until this effective date.

Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the effective date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end these are often different: if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday's date. The entered date is Monday's date.

Note If the user enters an effective date that is not in the open GL period, the system displays the following error: "Period has been closed for entity xxx." (msg 3036)

Inventory Movement Code

Enter an inventory movement code for this unplanned issue. The code must allow transaction type ISS-UNP.

Inventory movement codes are required when Require Inventory Movement Codes is Yes in Cust Sched/Shipper Acct Control. The code determines the default debit GL account, sub-account, and cost center for unplanned issues.

The account, sub-account, and cost center defined in Inventory Movement Codes for this code are used by default. If these values are not defined, account information defaults from the Cost of Production account defined in Production Order Accounts for the product line and site.

Debit Account

Enter the general ledger (GL) account code used to track debit amounts for this inventory transaction. This must be a valid, active account of type Standard. The default for this field is from the Cost of Production Account of the Product Line of the item.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Note You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Dr Sub-Acct

Enter the general ledger (GL) sub-account to be debited for this inventory transaction. The default for this field is from the Cost of Production Sub-Account of the Product Line of the item.

Sub-account code is one component of an account number defined in GL setup functions. Other components of an account number are account, cost center, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use sub-accounts to provide additional detail on GL reports.

Dr Cost Ctr

Enter the general ledger (GL) cost center code to be debited for this inventory transaction. The default for this field is from the Cost of Production Cost Center of the Product Line of the item.

Cost center code is one component of an account number defined in GL setup functions. Other components of an account number are account, sub-account, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use cost centers to provide additional detail on GL reports.

Debit Project

Enter an optional code identifying the default general ledger (GL) project to be debited by this inventory transaction.

Project codes are one component of an account number defined in GL setup functions. Other components of account numbers are account, sub-account, and cost center code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Although project details are not printed on standard financial statements, project summary and detail transaction reports are available to review project activity. Inventory value, but not physical inventory, can be tracked by project codes.

Shipper Number

Along with Ship-From Site, Shipper ID uniquely identifies a shipper record.

Shipper records represent shippers being prepared for shipment. Additionally, content information -- the product being sold or container records -- is assigned to shipper records.

Container records represent containers being prepared for shipment. Additionally, you can assign content information to container records. Contents can be either the product being sold, or can be subcontainers, such as cardboard boxes that are packed onto a pallet.

Creating a container record follows the physical process of preparing a shipment. First a container is obtained (create a container record), then it is packed (assign contents to the container record). This process is repeated for all similar containers.

If necessary a supercontainer, such as a pallet, is obtained (create a container record) and loaded with the previously packed containers (assign subcontainers to this container record).

Once the final containers have been packed, they can be assigned to a shipper record. Use Sales Order Shippers to create a shipper record and register its contents. There are no restrictions on how you can structure a shipment.

Defaults to the last accessed shipper record, or if left blank, defaults to the next shipper number of Customer Schedules Control.

The container record is also the basis for printing shipping labels.

Note This field is active if the Shipment Info For Receipts check box is selected in the Container/Shipper panel in the Logistics Control hybrid view.

Ship Date

This is a system-maintained field that records the last date a shipment was processed for this order. Invoices and commission reports may be printed for a range of ship dates. The default is the effective date entered on the shipment transaction, which is normally the system date.

Note This field is active if the Shipment Info For Receipts check box is selected in the Container/Shipper panel in the Logistics Control hybrid view.

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Site Inventory Exceptions grid on the Site panel in the Items view.
- For the item in the Inventory panel in the Items view.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in Inventory Control. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

You can modify inventory attributes such as expire date, grade, assay %, and inventory status using:

- Inventory Detail view
- Item Lots
- If you are using the Regulatory Attributes module, Inventory Detail Update

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using the Inventory Detail view or Item Lots. PO Rcpt Status assigns a default inventory status code for

purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Note This field is read only if the quantity entered in the Quantity field is a positive value. If quantity entered in the Quantity field is a negative value and the item's site/location/lot/serial/ref combination does not already exist, then this field is editable.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes —Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view. They can also be changed in Inventory Detail Update in the Regulatory Attributes module.

Note This field is read only if quantity entered in the Quantity field is a positive value. If quantity entered in the Quantity field is a negative value and the item's site/location/lot/serial/ref combination does not already exist, then this field is editable.

Assay Percent

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes—Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view. They can also

be changed in Inventory Detail Update in the Regulatory Attributes Module.

Note This field is read only if quantity entered in the Quantity field is a positive value. If quantity entered in the Quantity field is a negative value and the item's site/location/lot/serial/ref combination does not already exist, then this field is editable.

Line Multi Entry

Use the Multi-Entry option to issue multiple lot/serials for an item. In the Line Multi-Entry modal, enter the Site, Location, Lot/Serial, Reference Number, and Quantity. When the entire transaction quantity has been entered, click OK to return to the Issue Unplanned modal. The quantity to process is updated to reflect the total entered in the Multi-Entry modal.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and

inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required. Please re-enter". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]. Please re-enter".

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Quantity

The total quantity processed on this inventory transaction. This is the quantity taken out of stock.

Normally issues should be processed against a valid order—sales order or manufacturing order. You can apply field security to this field to restrict access.

The Quantity can be a positive or negative value. If the item is a Serial (S) controlled item, the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or -1 . Please re-enter"

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Site Inventory Exceptions grid on the Site panel in the Items view.
- For the item in the Inventory panel in the Items view.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity

to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in Inventory Control. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

You can modify inventory attributes such as expire date, grade, assay %, and inventory status using:

- Inventory Detail view
- Item Lots
- If you are using Regulatory Attributes, in Inventory Detail

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using the Inventory Detail view. PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Note This field is read only if the quantity entered in the Quantity field is a positive value. If the quantity entered in the Quantity field is a negative value and the item's site/location/lot/serial/ref combination does not already exist, then this field is editable.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking

ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes —Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view. They can also be changed in Inventory Detail in the Regulatory Attributes panel.

Note This field is read only if the quantity entered in the Quantity field is a positive value. If the quantity entered in the Quantity field is a negative value and the item's site/location/lot/serial/ref combination does not already exist, then this field is editable.

Assay Percent

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes—Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view. They can also be changed in Inventory Detail Update in the Regulatory Attributes Module.

Note This field is read only if the quantity entered in the Quantity field is a positive value. If the quantity entered in the Quantity field is a negative value and the item's site/location/lot/serial/ref combination does not already exist, then this field is editable.

Shipping Documents

When goods are issued from a site or a physical location to a specific address, Global Shipping functions to determine if a shipping document is needed.

If a shipping group is configured for the source site/location and destination address, and an inventory movement code with a Transaction Type of ISS-UNP exists, the system prompts you to create a shipping document when you enter valid site, address, and inventory movement code information in the Main panel.

Note If you create non-sales shippers when using the Issue Unplanned transaction, tax is not created.

Create Shipping Documents

Select this checkbox to create a non-sales shipper for the Issue Unplanned transaction. By default, this checkbox is selected.

Shipper

The shipper number for thisIssue Unplanned transaction. By default, this field is blank. When entering the shipper number, you can:

- Leave the field blank to allow the system to automatically generate a shipping number.
- Enter an existing unconfirmed shipper number to consolidate the transferred items with another shipment. In this scenario, the From and To Sites/Locations for the shipper entered must match the From and To Sites/Locations in the Transfer panel. The Consolidate Shipment field must also be set to Yes. Upon Submit, the existing shipper is updated to include the transferred items.

Shipping Group

Displays the shipping group associated with the Issue Unplanned transaction.

Status

Displays the current status of the shipper, which defaults from the Create Shipper field in the **Logistics Control** > Non-Sales Shipper panel:

- If the Status field in **Logistics Control** is set to Confirmed or Unconfirmed, then this field is read only.
- If the Status field in **Logistics Control** is set to Optional, then this field is enabled, allowing you to set the status to Confirmed or Unconfirmed.

Print Shipper

Select this checkbox to print the non-sales shipping document for this Issue Unplanned transaction after clicking Submit.

Shipper Options

Document Format

The document format used to print this shipper. The document format must be a valid format of a type applicable to shippers. This value defaults from the setting in **Shipping Groups** and then if not defined, it defaults from **Logistics Control**.

Language

The language for the shipper, which defaults from the setting in **Domains**.

Consolidate Ship

Specifies whether consolidating shipments with an existing unconfirmed non-sales shipper is prohibited or allowed. This value defaults from the Consolidate Ship field in **Shipping Groups**:

- If the Consolidate Ship setting in **Shipping Groups** is Yes or No, then this field is read only.
- If the Consolidate Ship setting in **Shipping Groups** is Optional, then this field is enabled, allowing you to set the value to Yes or No.

Carriers

This panel displays the list of carriers that were set up in **Shipping Groups** for the associated inventory movement code. If necessary, you can add a carrier to the grid by clicking New.

Sequence

This field indicates the order in which the various carriers handle shipments. The Ship-From site of a shipment turns over possession to the first carrier, which later canterms turn over possession to a second carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

Carrier

The carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name

Displays the name of the Carrier as defined in **Carriers**.

Ship Via

Enter a code identifying the carrier responsible for this shipment. This field is mandatory. By default, this field is blank.

Terms of Trade Point

Enter the terms of trade point for this shipment. The terms of trade point field identifies when title passes to the buyer from the seller, as well as who pays shipping. By default, this field is blank.

Mode of Transport

Enter the mode of transport for the shipment such as air or sea. This field is for reference only. By default, this field is blank.

Carrier Shipment Reference

Enter a shipment reference number supplied by the carrier such as a bill of lading number, carrier tracking number, or packing slip number. By default, this field is blank.

Vehicle ID

Optionally, enter an identifier representing the carrier's vehicle. This field is for reference only. By default, this field is blank.

Payment Type

Specify the payment type. Use Payment Type and Carrier Account to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Carrier Account

Specify the carrier account code. Use Carrier Account and Payment Type to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Receive Backward Exploded

To perform a receive backward exploded transaction, go to **Inventory Detail** and select Actions > Receive Backward Exploded. In the Receive Backward Exploded window, fill out the required information in the fields.

The Receive Backward Exploded action is used to receive items and issue components. Backward-exploded receipts increase inventory quantity for an item at the designated sites and locations and decrease inventory for its components.

Backward-exploded receipts are often used in kitting or simple assembly operations, where setting up a production order is not needed. Recording the receipt of the finished item indicates that you used a certain group of materials.

Multi-Entry

Use the Multi-Entry option to perform a backward exploded receipt on multiple lot/serials for an item. In the Line Multi-Entry window, enter the Site, Location, Lot/Serial, Reference Number, and Quantity. When the entire transaction quantity has been entered, select OK to return to the Receive Backward Exploded window. The Total Lot/Serial Quantity Entered field is updated to reflect the total entered in the Multi-Entry window.

For more information, see Line Multi-Entry on page 2650.

For detailed steps about using this option, see Using Multi-Entry for Backflush on page 2654

Modify Backflush

Use the Modify Backflush option to modify the default component backflush list and finished material receipt. In the Modify Backflush window, you can add, change, or delete components, their quantities, and their inventory specifics. For the inventory specifics, you may modify the site, location, or lot/serial of the component to backflush.

In the event that any component in the backflush list is lot/serial controlled or for some reason not issuable, the system will display an error message.

Note The component backflush logic considers the product structure in effect on the transaction effective date. If components are added, changed, or removed from the current product structure during the life of a cumulative order and backflush transactions occur, the differences cause material usage variances. Product structure and routing changes can be phased into cumulative orders by setting the cumulative order effective dates to match the product structure and routing effective dates.

For detailed steps about using this option, see Using Modify Backflush on page 2664.

Inventory Effects

The system maintains a complete audit trail of inventory transactions in transaction history (tr_hist). Several transactions are created; RCT-WO for the receipt and ISS-WO for the component issues.

When an inventory transaction references a different site than the originating order, the system processes this transaction in two steps.

- On an issue transaction, the inventory is transferred to the order site and then issued.
- On a receipt transaction, the inventory is received and then transferred.

This generates additional transaction types ISS-TR and RCT-TR.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using **Operational Transaction Post**. Review unposted transactions with **Unposted Transactions**.

Issues:

- Debit the Work in Process (WIP) account defined in **Production Order Accounts** for the product line and site. This can be changed.
- Credit the Inventory account defined in **Inventory Accounts** for the product line, site, and location.

Receipts:

- Debit the Inventory account defined in **Inventory Accounts** for the product line, site, and location.
- Credit the WIP account defined in **Production Order Accounts** for the product line and site. This can be changed.

Variances:

- Debit the WIP account defined in **Production Order Accounts** for the product line and site.
- Credit the Method Variance account defined in **Production Order Accounts** for the product line and site.

When inventory transactions affect more than one site, costs may differ between the two sites. Cost variances are posted to the Transfer Variance account defined for the item product line and site in **Inventory Accounts**, if available. Otherwise, the account defined for the site in the **Sites** is used. The system automatically generates the appropriate balancing transactions in the GL for each site.

When the transfer-from and transfer-to sites are in different entities, a balancing entry is posted to the appropriate Cross-Company Inventory Control account defined for the domain referencing the intercompany codes associated with the entities.

When the two sites are in the same entity, a balancing debit or credit is posted to the Transfer Clearing account defined in **Inventory Control** > Inventory Accounting panel.

Corrections

Reverse a Receive Backward Exploded transaction by processing it again with a negative quantity. Individual issue quantities can be corrected using Issue Unplanned Action on page 2620 and Receive Unplanned Action on page 2665.

Main

Item

Enter a code identifying an item that you stock in inventory, purchase, manufacture, sell, or service. Item codes can identify raw materials, purchased or manufactured intermediates, finished items, packaging materials, planning items, configured products, service kits, and repair parts used in service activities.

Description 1

The primary description of this item (up to 24 characters). You can use the primary description to look up item codes. The first description line appears on all reports, inquiries, and printed documents.

Description 2

The second line of description of the item. Provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Quantity

Enter the quantity processed on this inventory transaction.

For Co-Products/By-Products, this is the quantity to receive for this co-product or by-product in the specified unit of measure.

The Quantity can be a positive or negative value:

- If the item is a Serial (S) controlled item and the Multi-Entry option is set to No (no additional items are entered in the Multi-Entry grid), the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or - 1."
- If the item is a Serial (S) controlled item and the Multi-Entry option is set to No (no additional items are entered in the Multi-Entry grid), the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or - 1."

UM

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in **Generalized Codes**, if any.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the

item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

WIP Site

A site code identifying the place where this manufacturing or assembly activity was done.

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All components are issued (backflushed) from the WIP site, updating work in process there. Finished items are received into inventory at this site, clearing work in process and posting any variance there.

If a different inventory site is entered in the Site field, the finished items are received at the WIP site and then transferred to that inventory site.

If you use two different sites and each references a different entity, the system automatically creates the appropriate intercompany balancing entries for the general ledger.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you can think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot Control

The Lot Control value for the item determines if a lot or serial number is required.

Lot Control values include:

- **Blank:** The Lot/serial numbers are not required, although they can be recorded as needed.
- **L**: Lot numbers are required for this item. During issues and receipts, a lot number must be entered. The lot number applies to the entire transaction quantity entered.
- **S**: Serial numbers are required for this item. During issues and receipts, a unique serial number must be entered for each item. For example, if you receive 10, you must enter 10 serial numbers.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and

inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required.". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]."

Note Use the Multi-Entry option to issue multiple lot/serials for an item.

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Multi-Entry

Indicates whether this transaction references multiple sites, locations, lot number, serial numbers, or lot reference numbers. When the Multi-Entry option is used to enter multiple lot/serials to issue for an item, this check box is automatically selected. If you clear the check box after using the Multi-Entry option to select multiple lot/serials for an item, the system will delete the multiple lot/serials that were selected in the Multi-Entry window. By default, the Multi-Entry option is not selected.

The system creates an individual transaction history record for each transaction line. The total of all lines is used to update the inventory balance.

Total Lot/Serial Quantity Entered

Displays the number of lot/serials entered in the Multi-Entry window for the item being received.

Modify Backflush

Indicates whether the Modify Backflush option was used to modify the components that will be backflushed when this item is received.

- **Selected.** Indicates that the Modify Backflush option was used to modify the components that will be backflushed when this item is received.
- **Cleared.** Indicates that the system will use the default component backflush list created for the routing and product structure

specified. If the work center has been set up as a location, components will be backflushed from there.

Order

Enter the order number associated with this inventory transaction.

When you create an unplanned inventory transaction manually, you can enter an order number for the record. Inventory transactions created by other modules, such as **Sales Orders**, automatically reference the order number in transaction history. You can use order number to select records to include on some reports and inquiries.

Order number can be a sales order number, production order number, purchase order number, RMA/RTS number, or any other user-defined value. An order number entered on an unplanned inventory transaction is typically for reference. The system does not access this information from other modules. If you enter a production order number on an unplanned issue, it does not appear on the Production Order Costs report.

Sales/Job

Enter an optional code associating this inventory transaction with a particular unit of work.

Sales/job numbers can be referenced on sales orders, purchase orders, production orders, intersite requisitions, and inventory transactions. The sales/job number is stored in transaction history, letting you review the progress of activities associated with a particular sales order, contract, or job number.

Sales/job numbers are not validated and have no GL effect. Use project code to record the cost of a particular job in the GL.

Address

An optional address code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier.

When an unplanned inventory transaction or inventory transfer is processed, you can manually enter an address code for the record. When an inventory transaction is processed in another module, such as sales, the customer address code is kept in transaction history.

This field is for reference only and appears on various reports and inquiries. Some reports and inquiries can be selected by address code.

Remarks

Specify brief remarks (up to 10 characters) associated with this transaction.

Usually these identify the source or the reason for the transaction—for example, the document number associated with an unplanned transaction. When transactions are recorded in other modules, such

as sales, the system sometimes stores information (the packing list or invoice number) in the remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances: a production order does not increase the balance in the general ledger inventory account until this effective date.

Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the Effective Date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end these are often different: if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday's date. The entered date is Monday's date.

Note If the user enters an effective date that is not in the open GL period, the system displays the following error: "Period has been closed for entity".

Credit Account

Enter the general ledger (GL) account code used to track credit amounts for this inventory transaction. This must be a valid, active account of type Standard.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Note You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Credit Sub-Acct

Enter the general ledger (GL) sub-account code used to track credit amounts for this inventory transaction.

Sub-account code is one component of an account number defined in GL setup functions. Other components of an account number are account, cost center, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use sub-accounts to provide additional detail on GL reports.

Credit Cost Ctr

Enter the general ledger (GL) cost center code used to track credit amounts for this inventory transaction.

Cost center code is one component of an account number defined in GL setup functions. Other components of an account number are account, sub-account, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use cost centers to provide additional detail on GL reports.

Credit Project

Enter an optional code identifying the default general ledger (GL) project to be credited by this inventory transaction.

Project codes are one component of an account number defined in GL setup functions. Other components of account numbers are account, sub-account, and cost center code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Although project details are not printed on standard financial statements, project summary and detail transaction reports are available to review project activity. Inventory value, but not physical inventory, can be tracked by project codes.

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in **Items** > Site panel > Site Inventory Exceptions grid.

- For the item in **Items** > Inventory panel.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in **Inventory Control** > Inventory panel. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/ref combination already exists, this field is read only.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only

Assay Percent

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Line Multi-Entry

In the Line Multi-Entry window, enter the Site, Location, Lot/Serial, Reference Number, and Quantity. When the entire transaction quantity has been entered, select OK to return to the Receive Backward Exploded window. The Total Lot/Serial Quantity Entered field is updated to reflect the total entered in the Multi-Entry window.

For detailed steps about using this option, see Using Multi-Entry for Backflush on page 2654.

Multi-Entry

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required.". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]."

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the

production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Quantity

The quantity processed on this inventory transaction. This is the quantity that is received into stock.

The Quantity can be a positive or negative value. If the item is a Serial (S) controlled item, the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or -1."

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in **Items** > Site panel > Site Inventory Exceptions grid.
- For the item in **Items** > Inventory panel.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in **Inventory Control** > Inventory panel. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.

- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Assay Percent

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Using Multi-Entry for Backflush

Follow these steps to perform a backward exploded receipt on multiple lot/serials for an item:

1. In **Inventory Detail**, select the inventory detail record.
2. Select the Receive Backward Exploded action.
3. Enter the information about the item that will be backflushed, such as Quantity, Site, Location, Lot/Serial, and so on.
4. Select Multi-Entry. In the Line Multi-Entry window, enter the Site, Location, Lot/Serial, Reference Number, and Quantity.

   Note If you are backflushing serialized items and you enter the number of items in the Quantity field, when you select Multi-Entry the system automatically creates the correct number of lines for the serialized items.
5. Select New to add additional lines to the grid. Then enter the relevant information for that item.
6. After entering all the relevant information for all line items, select OK to return to the Receive Backward Exploded window.

Modify Backflush

In the Modify Backflush window, you can add, change, or delete components, their quantities, and their inventory specifics. For the inventory specifics, you may modify the site, location, or lot/serial of the component to backflush.

In the event that any component in the backflush list is lot/serial controlled or for some reason not issuable, the system will display an error message.

Note The component backflush logic considers the product structure in effect on the transaction effective date. If components are added, changed, or removed from the current product structure during the life of a cumulative order and backflush transactions occur, the differences cause material usage variances. Product structure and routing changes can be phased into cumulative orders by setting the cumulative order effective dates to match the product structure and routing effective dates.

For detailed steps about using this option, see Using Modify Backflush on page 2664.

Filter

Backflush Assembly

The product structure or formula used to manufacture this item. The default is the BOM code for the item received, as defined in **Items** > Site Planning Exceptions panel. If no BOM code is specified, the default is the item number.

Components are backflushed according to the standard quantity per specified in this product structure or formula.

An alternate bill can be specified. In a process industry this can happen when you begin processing to make one product but end up with another (perhaps of a different grade), or when an alternate routing/process is used. In order to use an alternate bill it must be predefined in **Product Structures & Formulas** > Item Structure Assignment panel.

Location

Enter a backflush location code. Component items are issued from this location.

If Automatic Locations is No in Sites, the system validates location codes against location codes defined in **Locations**. You can leave Location blank only if you have defined a blank location code in Locations.

When Location is blank, components are issued from the location specified in **Items**.

You can issue components to an assembly line, then backflush from that line location. To override the default backflush location, enter the line location in this field.

Note This Location field is used when the Pick Logic option is cleared.

Site

The site from which items are to be issued (backflushed). The default is the WIP site entered on the first screen.

Normally, components are issued from the site at which the manufacturing or assembly process took place. However, in some situations, you may want to override this—if you issued the components from an off-site storage facility rather than your normal warehouse.

Quantity

The quantity to use when backflushing components from inventory. The default is the receipt quantity entered on the first screen. For Co-

Products/By-Products, it is the quantity of the base process used to calculate Co-Product/By-Product requirements.

Normally, components are backflushed from inventory using the component quantity per multiplied by the receipt quantity. However, in some situations, you may want to override this. For example, if you started to manufacture or assemble 20 units you may have used that many components even though you received only 19 usable finished items. In that case you would set the backflush quantity to 20.

UM

Enter the unit of measure of the inventory transaction quantity. Should default from the UM setting in **Items**.

If you enter a unit of measure other than the default unit of measure, the system accesses the conversion factor defined in **UM Conversions**.

For example, an item is held in inventory in the UM EA, but shipped in a CS of 25. You define a conversion factor in **UM Conversions** so that: 25 EA = 1 CS. Now, when you enter CS, the system displays a conversion factor of 25 in the UM Conversion field. The cost and inventory quantity adjust automatically when the item is shipped.

When the system cannot find an alternate unit of measure, a warning displays and UM Conversion remains 1.0000. Adjust it manually.

Conversion

The system calculates and displays a value in this field based on the unit of measure (UM) specified for the line item.

- If the line-item UM is the same as the setting in **Items**, a value of 1.0000 displays.
- If the line-item UM is not that same as the setting in **Items**, the system looks for a conversion factor in **UM Conversions** and displays it. If none is found, a warning displays and the UM Conversion remains 1.0000. Adjust it manually.

The conversion factor is expressed as the ratio of the alternate unit of measure to the item unit of measure.

For example, an item is held in inventory in the UM EA, but sold in a case (CS) of 25. You define a conversion factor in **UM Conversions** so that: 25 EA = 1 CS. Now, when you enter CS, the system displays a factor of 25 in UM Conversion. The cost and inventory quantity adjust automatically when the item is shipped. You ship 1 CS but inventory is decreased by 25 EA.

Pick Logic

This option determines whether standard picking logic applies when the system backflushes components.

- **Selected**. Use standard picking logic as defined in **Inventory Control** > Inventory panel > Picking Logic subpanel to backflush components. Both the picking order and the value of ascending and descending are considered when the system selects components to backflush.

  Note You can override the standard picking logic by entering a specific location from which to backflush. Leave location blank to backflush each item from the first available location determined by the picking logic.

- **Cleared**. Pick items from the location entered previously or, if location is blank, from the default location specified in **Items** > Inventory panel or **Items** > Site Inventory Exceptions panel.

  Note There are two location fields in the Modify Backflush window. The first Location field is used when the Pick Logic option is cleared; the second Location field is used when the Pick Logic option is selected.

Location

The location from which components are to be backflushed. This may be left blank.

This field only applies if the Pick Logic option is selected.

Normally, this field is left blank and the components are backflushed from available locations based on the picking logic. If a location is entered here, this restricts the backflush to component inventory stored in this location. Picking logic is still used to select the appropriate lot/serial and lot reference numbers from this location. This can give you more control over the picking process. For example, you can restrict the picking process to a specific floor location rather than allowing issues from the stockroom or other valid storage locations.

Inventory Status

The specific inventory status code that components can be backflushed from. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and production order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

If an inventory status code is entered, the quantity to issue defaults to available component inventory with this status code. Any remaining

requirement defaults to a quantity to issue for the location specified for the component in Items.

This field only applies if the Pick Logic option is selected.

Normally, this field is left blank and the components are backflushed from available locations based on the picking logic. If an inventory status code is entered here, this restricts the backflush to component inventory with this status code. This can give you more control over the picking process. For example, you could define a status code that is assigned to components that may be backflushed and then only allow the backflush to issue items with that status.

Expire Date

Specifies an expiration date to check during the backflush process. This may be left blank. This field only applies if the Pick Logic checkbox is selected. Normally, it is left blank and the components are backflushed from available locations based on the picking logic. Only items that have not reached their expiration date are backflushed. If a date is entered here, only components that have expiration dates on or before this date are backflushed. (Items with a blank expiration date are included in the backflush.)

This field only applies if the Pick Logic option is selected.

Normally, this field is left blank and the components are backflushed from available locations based on the picking logic. Only items that have not reached their expiration date are backflushed. If a date is entered here, only components that have expiration dates on or before this date are backflushed. Items with a blank expiration date are included in the backflush. This can give you more control over the picking process. For example, you can restrict the picking process to a specific floor location rather than allowing issues from the stockroom or other valid storage locations.

Operation

The operation for which to backflush components. This may be left blank.

If operation is left blank, all components are backflushed. If an operation code is entered, only components in the bill that have that operation code are backflushed.

Normally, components are simply backflushed from inventory when the finished item is received complete. However, in some situations, you may want to backflush part way along in the process. For example, if all the items get scrapped after operation 20 and you receive 0 complete, you can then backflush the process quantity up through operation 20. Another example is when the processing time is very long and you do not want to wait until the end to update your component inventory balances. In that case, you could backflush at the end of each operation.

Option Group

The option group for which to backflush components. This may be left blank.

If option group is left blank, all components are backflushed. If an option group is entered, only components in the bill that have that option group are backflushed.

Normally, all components are simply backflushed from inventory when the finished item is received complete. However, in some situations, you may not have used all the components in the bill. For example, a configured product may be assembled from a particular group of options.

Process

The process code for which to backflush components. This may be left blank.

If process code is left blank, all components are backflushed. If a process code is entered, only components in the bill that have that process code are backflushed.

Normally, all components are simply backflushed from inventory when the finished item is received complete. However, in some situations, you may use different components based on the manufacturing process that was used. Each component can be associated with a specific process code and backflushed accordingly.

Components

When the Modify Backflush window opens, the list of components is displayed in the Components grid.

- The list components are derived from the item's BOM.
- In the Components grid, there may be multiple issue lines for a component item. This occurs when there is insufficient quantity for a component in one or more of the picking locations.
- If the total requirement remains unsatisfied after the program has exhausted the picking location hierarchy, the remainder displays as the Quantity To Issue from the default location in **Items** > Inventory panel or **Items** > Site Inventory Exceptions panel.
- The picking hierarchy is based on the criteria entered in the Receive Backward Exploded window and the pick logic specified in **Inventory Control** > Inventory panel > Picking Logic subpanel.
- If there is insufficient quantity in the default location and its inventory status has overissue set to No, the issue does not occur until the inventory problem is resolved or the backflush is modified.
- The system maintains a complete audit trail of inventory transactions in transaction history (tr_hist). Several transactions are created; RCT-WO for the receipt and ISS-WO for the component issues.

Item

The component being issued. This component item is issued from inventory in the quantity specified.

Item codes uniquely identify items or products—raw materials, purchased or manufactured intermediates, finished items, packaging materials, whatever. Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Normally, components used only include items called for in the standard bill, but you can enter any valid item here. This allows you to record unplanned issues during the issue or backflush process.

Note This field is read only for components that are added to the grid by default. If new components are added by the user by selecting New, this field becomes active.

Description

The primary description of this item (up to 24 characters). You can use the primary description to look up item codes. The first description line appears on all reports, inquiries, and printed documents.

Qty Required

The quantity of this component that is required.

Qty To Issue

Component to be issued. Should be active. Should default from the Qty Required, and be modifiable so the user can update the quantity.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Identifies this inventory quantity's location.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Inventory characteristics, such as Expire Date, Grade, Assay %, and Inventory Status, can be changed in Inventory Detail.

Lot/Serial

The lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required.". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]."

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Multi-Entry

Indicates whether this transaction references multiple sites, locations, lot number, serial numbers, or lot reference numbers. When the Multi-Entry option is used to enter multiple lot/serials to issue for an item, this checkbox is automatically selected. If you clear the checkbox after using the Multi-Entry option to select multiple lot/serials for an item, the system will delete the multiple lot/serials that were selected in the Multi-Entry window. By default, the Multi-Entry option is not selected.

The system creates an individual transaction history record for each transaction line. The total of all lines is used to update the inventory balance.

Substitute

Indicates whether a defined substitute should be issued for this component.

- **Selected**. Indicates that the item in the Substitute Item field will be used instead. When this option is selected, the Substitute Item, Substitute Qty Per, and Substitute Qty To Issue fields become active.

  Note This item must be a valid substitute for the required component. Substitute items are defined **Product Structures & Formulas**.

- **Cleared**. Indicates that you are not issuing a substitute for this component. If the item was already listed as a required component, the requirement is decreased by the quantity issued. If the item was not listed, it is added to the bill and issued.

Substitute Item

The item code for the component item that may replace the preferred component. This field is active when the Substitute option is selected.

Note This item must be a valid substitute for the required component. Substitute items are defined in **Product Structures & Formulas** > Components details window > Local Substitutions panel.

If there is no substitute item defined, the system displays an error saying “Approved alternate item does not exist. Please Re-enter”. If more than one possible substitute item is defined for the component, all applicable substitute items are displayed in the lookup.

Substitute Qty Per

The quantity of the substitute item that is equivalent to one unit of the preferred component item. This quantity defaults from the quantity defined for the substitute item in **Product Structures & Formulas** > Components details window > Local Substitutions panel.

This field is active when the Substitute option is selected.

Substitute Qty To Issue

Displays the quantity of the substitute item that is issued. This value is calculated by multiplying the Quantity to Issue of the preferred component by the Substitute Qty Per of the substitute item.

Using Modify Backflush

Follow these steps to modify the default list of components that will be backflushed:

1. In **Inventory Detail**, select the inventory detail record.
2. Select the Receive Backward Exploded action.
3. Enter the information about the item that will be backflushed, such as Quantity, Site, Location, Lot/Serial, and so on.
4. Select Modify Backflush. When the Modify Backflush window opens, the list of components is displayed in the Components grid.
    - The list components are derived from the item's BOM.
    - In the Components grid, there may be multiple issue lines for a component item. This occurs when there is insufficient quantity for a component in one or more of the picking locations.
    - If the total requirement remains unsatisfied after the program has exhausted the picking location hierarchy, the remainder displays as the Quantity To Issue from the default location in **Items** > Inventory panel or Items > Site Inventory Exceptions panel.
    - The picking hierarchy is based on the criteria entered in the Receive Backward Exploded window and the pick logic specified in **Inventory Control**.
    - If there is insufficient quantity in the default location and its inventory status has overissue set to No, the issue does not occur until the inventory problem is resolved or the backflush is modified.
    - The system maintains a complete audit trail of inventory transactions in transaction history (tr_hist). Several transactions are created; RCT-WO for the receipt and ISS-WO for the component issues.
5. Optionally, modify the backflush information in the Filter panel, including the issue Site, Location, Picking Logic, Option Group, Process, and so on.
    - **Search.** If you make changes to the data in the Filter panel, click Search to update the components to issue.
    - **Reset Filter.** To restore the default data in the Filter panel, select Reset Filter.
6. Optionally, modify the information in the Components grid by selecting the row and changing the information in the fields.
7. Optionally, add any substitute items. To add a substitute item:
    a. Select the component item (row) that will be substituted and then select the Substitute checkbox.

b. When the Substitute check box is selected, the Substitute Item, Substitute Qty Per, and Substitute Qty To Issue fields become active.
c. Enter the substitute item in the Substitute Item field or select the item using the lookup. The lookup only displays valid substitute components.

   Note This item must be a valid substitute for the required component. Substitute items are defined in **Production Structures & Formulas** > Components details window > Local Substitutions panel. If there is no substitute item defined, the system displays an error saying “Approved alternate item does not exist. Please Re-enter.” If more than one possible substitute item is defined for the component, all applicable substitute items are displayed in the lookup.

d. Based on the settings defined in **Production Structures & Formulas**, the quantities are populated into the Substitute Qty Per and Substitute Qty To Issue fields.

8. Optionally, add a new item to the component list by selecting New and entering the Item, Qty Required, Qty To Issue, and so on.
9. Once you have entered all the necessary information in the Modify Backflush window, select OK.

Receive Unplanned Action

To perform an unplanned receipt, select the item in **Inventory Detail** and select Actions > Receive Unplanned. In the Receive Unplanned window, fill out the required information in the fields.

To perform an unplanned receipt on multiple items, click New to add additional rows to the grid and then fill out the required information in the fields.

Once you have entered all the required information, click Submit.

Note For Memo and Expense items, the inventory issued will not be visible in the **Inventory Detail** browse.

Multi-Entry

Use the Multi-Entry option to receive multiple lot/serials for an item. In the Line Multi-Entry window, enter the Site, Location, Lot/Serial, Reference Number, and Quantity. When the entire transaction quantity has been entered, click OK to return to the Receive Unplanned window. The quantity to process is updated to reflect the total entered in the Multi-Entry window.

Item Attributes

To enter item attributes during an unplanned receipt, select the Attributes option. The Attributes option is only enabled if user input method attributes have been defined for the item being received.

The system allows you to enter attributes for single or multiple items and for items that have multiple lot/serials.

- To enter attributes for single or multiple items, select the Attributes option from the Main grid. Then enter the attribute in the Value field and any additional notes in the Remarks field.
- To enter attributes for items that have multiple lot/serials, select the Attributes option from the Multi-Entry window. Then enter the attribute in the Value field and any additional notes in the Remarks field.

About Receive Unplanned

Use the Receive Unplanned action to register a receipt not related to any open sales, purchase, manufacturing, or quality order. A receipt increases inventory quantity for an item at the designated sites and locations.

Use unplanned receipts to record miscellaneous inventory receipts such as floor stock items sent back from production or materials sent back from engineering. You can also record the receipt of materials from a manufacturing order that has already been closed for accounting purposes.

To record transfers, use the Transfer action instead of the Issue Unplanned and Receive Unplanned actions. The Transfer action maintains complete lot/serial traceability.

When you use Receive Unplanned to receive inventory that is packed and the packed items are serialized, the system displays an error and prompts you to use the Pack Receipt program on the Serialization menu.

Inventory Effects

The system maintains a complete audit trail of inventory transactions in transaction history (tr_hist). Review these with Transactions Detail Inquiry. Each transaction is identified by a transaction number and a transaction type. The transaction type is RCT-UNP.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using Operational Transaction Post. Review unposted transactions with Unposted Transaction Inquiry and Register. Transactions:

- Debit the Inventory account defined in Inventory Accounts for the product line, site, and location.
- Credit the account defined for the selected inventory movement code. If no inventory movement code is selected or no account is defined for the selected inventory movement code, then it credits the Purchases account defined in Purchasing Accounts for the product line and site. If you enter a valid supplier in the Address field, the supplier type is also used to find a Purchases account. You can change this account, as needed.

Corrections

To reverse a Receive Unplanned transaction for an item, perform the Issue Unplanned action for that item.

Implementation

During implementation, use unplanned transactions to substitute for inventory transactions in modules not yet implemented. For example, use Issue Unplanned in place of Sales Order Shipments until the Sales Orders/Invoices module is implemented.

After the module is implemented, use its functions, since unplanned transactions do not update all the records that functions in other modules do, such as invoicing, history, and costs.

Options

Item

Enter a code identifying an item that you stock in inventory, purchase, manufacture, sell, or service. Item codes can identify raw materials, purchased or manufactured intermediates, finished items, packaging materials, planning items, configured products, service kits, and repair parts used in service activities.

If you have multiple sites, you can set up site-specific planning, inventory, and cost data for items in the various item-site functions. However, item engineering information such as type, group, product line, and description is the same for all sites. If engineering data differs based on sites, you must create different item numbers.

Most reports and inquiries can be selected and sorted for ranges of item codes.

Description 1

The primary description of this item (up to 24 characters). You can use the primary description to look up item codes. The first description line appears on all reports, inquiries, and printed documents.

Description 2

The second line of description of the item. Provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Quantity

The total quantity processed on this inventory transaction. This is the quantity taken out of stock.

Normally receipts should be processed against a valid order—purchase order or manufacturing order. You can apply field security to this field to restrict access.

The Quantity can be a positive or negative value:

- If the item is a Serial (S) controlled item and the Multi Entry option is set to No (no additional items are entered in the Multi Entry grid), the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or - 1 . Please re-enter".
- If the item is a Serial (S) controlled item and the Multi Entry option is set to Yes (multiple items are entered in the Multi Entry grid), the quantity entered can be a value other than 1 or -1.

UM

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in **Generalized Codes**, if any.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and

inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Note Use the Multi-Entry option to enter more than one site on the inventory transaction.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Note Use the Multi-Entry option to enter more than one location on the inventory transaction.

Lot Control

The Lot Control value for the item determines if a lot or serial number is required. The value, which is set in **Items**, is used as the default for all sites. Set up site-specific values in the Site panel in **Items**.

Lot Control values include:

- Blank: The Lot/serial numbers are not required, although they can be recorded as needed.
- L: Lot numbers are required for this item. During issues and receipts, a lot number must be entered. The lot number applies to the entire transaction quantity entered.
- S: Serial numbers are required for this item. During issues and receipts, a unique serial number must be entered for each item. For example, if you receive 10, you must enter 10 serial numbers.

The system maintains complete lot/serial number traceability. The Lot Actual Bill Inquiry lists all the lot/serial numbers of components and raw materials used to make a given lot/serial number. Lot Where-Used Inquiry lists all the places that an individual lot/serial number was used, all the way to the end customer.

For manufactured items, lot numbers can optionally be assigned by the system by setting Automatic Lot Numbers to Yes. When the item is received into inventory using a production order receipt function, the lot number is set to the work order lot ID.

If you are using Regulatory Attributes, stricter levels of lot and serial control are available. You can also generate lot numbers based on a pattern specified in the Lot Group field.

Note You cannot modify this value from blank to S or L if a quantity of the item already exists in inventory.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required. Please re-enter". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]. Please re-enter".

Note Use the Multi-Entry option to issue multiple lot/serials for an item.

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the

production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Note Use the Multi Entry option to issue items with multiple reference values.

Multi Entry

Indicates whether this transaction references multiple sites, locations, lot number, serial numbers, or lot reference numbers. When the Multi-Entry option is used to enter multiple lot/serials to issue for an item, this field automatically changes to Yes. If you then change this field to No after using the Multi-Entry option to select multiple lot/serials for an item, the system will delete the multiple lot/serials that were selected in the Multi-Entry window. By default, this field is set to No.

The system creates an individual transaction history record for each transaction line. The total of all lines is used to update the inventory balance.

Attributes

Indicates if the item being received has user input method attributes defined.

Unit Cost

This value defaults from Item-Site Cost record, if available; otherwise, it defaults from the item master.

Total Lot/Serial Quantity Entered

The total number of lot/serials that have been specified for the item in the Multi-Entry window.

Total Cost

This value is automatically calculated as follows: Total Lot/Serial Quantity Entered * Unit Cost.

Order

Enter the order number associated with this inventory transaction.

When you create an unplanned inventory transaction manually, you can enter an order number for the record. Inventory transactions created by other modules, such as Sales Orders, automatically reference the order number in transaction history. You can use order number to select records to include on some reports and inquiries.

Order number can be a sales order number, production order number, purchase order number, RMA/RTS number, or any other user-defined

value. An order number entered on an unplanned inventory transaction is typically for reference. The system does not access this information from other modules. If you enter a production order number on an unplanned issue, it does not appear on the Production Order Costs report.

The system does, however, validate order lines against inventory transactions when you are using Customer Consignment Inventory. When the system identifies inventory that is consigned or when not enough non-consigned inventory exists to fill your order, an error message displays. For customer consigned inventory, use sales order or consignment shipping and usage programs to create inventory transactions.

Line

The line item number associated with this inventory transaction.

When an unplanned inventory transaction is processed, you can manually enter an order line item for the record. When an inventory transaction is processed in another module, the order number and line item remain in transaction history. This field is for reference only and may appear on some selected reports and inquiries.

The system performs the following validations on the order and line:

- If the order and line are found to be a customer consigned Sales Order and the Item does not match the Sales Order Line, the system prevents the receipt from completing and the following error is displayed: "Matching order line item for this part not found." (msg 8285)
- If the order and line are found to be a customer consigned Sales Order and the Item matches but the receipt is for a negative quantity, the system prevents the receipt from completing and the following error is displayed: "Unable to issue/receive consigned inventory." (msg 4937)

Sales/Job

Enter an optional code associating this inventory transaction with a particular unit of work.

Sales/job numbers can be referenced on sales orders, purchase orders, production orders, intersite requisitions, and inventory transactions. The sales/job number is stored in transaction history, letting you review the progress of activities associated with a particular sales order, contract, or job number.

Sales/job numbers are not validated and have no GL effect. Use project code to record the cost of a particular job in the GL.

Address

An optional address code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier.

When an unplanned inventory transaction or inventory transfer is processed, you can manually enter an address code for the record. When an inventory transaction is processed in another module, such as sales, the customer address code is kept in transaction history.

This field is for reference only and appears on various reports and inquiries. Some reports and inquiries can be selected by address code.

Remarks

Specify brief remarks (up to 10 characters) associated with this transaction.

Usually these identify the source or the reason for the transaction—for example, the document number associated with an unplanned transaction. When transactions are recorded in other modules, such as sales, the system sometimes stores information (the packing list or invoice number) in the remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances: a production order does not increase the balance in the general ledger inventory account until this effective date.

Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the effective date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end these are often different: if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday's date. The entered date is Monday's date.

Note If the user enters an effective date that is not in the open GL period, the system displays the following error: "Period has been closed for entity xxx." (msg 3036)

Inventory Movement Code

Enter an inventory movement code for this unplanned issue. The code must allow transaction type ISS-UNP.

Inventory movement codes are required when Require Inventory Movement Codes is Yes in Cust Sched/Shipper Acct Control. The code determines the default debit GL account, sub-account, and cost center for unplanned issues.

The account, sub-account, and cost center defined in Inventory Movement Codes for this code are used by default. If these values are not defined, account information defaults from the Cost of Production account defined in Production Order Accounts for the product line and site.

Cr Account

Enter the general ledger (GL) account code used to track credit amounts for this inventory transaction. This must be a valid, active account of type Standard.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Note You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Cr Sub-Acct

Enter the general ledger (GL) sub-account code used to track credit amounts for this inventory transaction.

Sub-account code is one component of an account number defined in GL setup functions. Other components of an account number are account, cost center, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use sub-accounts to provide additional detail on GL reports.

Cr Cost Ctr

Enter the general ledger (GL) cost center code used to track credit amounts for this inventory transaction.

Cost center code is one component of an account number defined in GL setup functions. Other components of an account number are account, sub-account, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use cost centers to provide additional detail on GL reports.

Credit Project

Enter an optional code identifying the default general ledger (GL) project to be credited by this inventory transaction.

Project codes are one component of an account number defined in GL setup functions. Other components of account numbers are account, sub-account, and cost center code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Although project details are not printed on standard financial statements, project summary and detail transaction reports are available to review project activity. Inventory value, but not physical inventory, can be tracked by project codes.

Shipper Number

Along with Ship-From Site, Shipper ID uniquely identifies a shipper record.

Shipper records represent shippers being prepared for shipment. Additionally, content information—the product being sold or container records—is assigned to shipper records.

Container records represent containers being prepared for shipment. Additionally, you can assign content information to container records. Contents can be either the product being sold, or can be subcontainers, such as cardboard boxes that are packed onto a pallet.

Creating a container record follows the physical process of preparing a shipment. First a container is obtained (create a container record), then it is packed (assign contents to the container record). This process is repeated for all similar containers.

If necessary a supercontainer, such as a pallet, is obtained (create a container record) and loaded with the previously packed containers (assign subcontainers to this container record).

Once the final containers have been packed, they can be assigned to a shipper record. Use Sales Orders Shippers to create a shipper record

and register its contents. There are no restrictions on how you can structure a shipment.

Defaults to the last accessed shipper record, or if left blank, defaults to the next shipper number of Customer Schedules Control.

The container record is also the basis for printing shipping labels.

Note This field is active if the Shipment Info For Receipts check box is selected in the Container/Shipper panel in the Logistics Control view.

Ship Date

This is a system-maintained field that records the last date a shipment was processed for this order. Invoices and commission reports may be printed for a range of ship dates. The default is the effective date entered on the shipment transaction, which is normally the system date.

Note This field is active if the Shipment Info For Receipts check box is selected in the Container/Shipper panel in the Logistics Control view.

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Site Inventory Exceptions grid on the Site panel in **Items**.
- For the item in the Inventory panel in **Items**.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in the Inventory panel in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using **Inventory Detail**. PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Assay Percent

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Line Multi Entry

Use the Multi-Entry option to receive multiple lot/serials for an item. In the Line Multi-Entry window, enter the Site, Location, Lot/Serial, Reference Number, and Quantity. When the entire transaction quantity has been entered, click OK to return to the Receive Unplanned window. The Total Lot/Serial Quantity Entered is updated to reflect the total entered in the Multi-Entry window.

The system allows you to enter attributes for items that have multiple lot/serials. The Attributes option is only enabled if user input method attributes have been defined for the item being received.

To enter attributes for items that have multiple lot/serials, select the Attributes option from the Multi-Entry window. Then enter the attribute in the Value field and any additional notes in the Remarks field.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required. Please re-enter". If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]. Please re-enter".

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the

production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Quantity

The total quantity processed on this inventory transaction. This is the quantity taken out of stock.

Normally issues should be processed against a valid order—sales order or manufacturing order. You can apply field security to this field to restrict access.

The Quantity can be a positive or negative value. If the item is a Serial (S) controlled item, the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or -1 . Please re-enter"

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Site Inventory Exceptions grid on the Site panel in **Items**.
- For the item in the Inventory panel in **Items**.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in the Inventory panel in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/ref combination already exists, this field is read only.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using **Inventory Detail**. PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Assay Percent

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read only.

Attribute Status

Indicates if attributes have been entered for the item.

- Full circle. Indicates that there is no action needed by user because all attributes have been entered or it is an existing lot so they cannot update the attribute value but only the remarks.
- Half circle. Indicates that not all the attribute values have been entered.
- Empty circle. Indicates that no values have been entered.

Attributes

To enter item attributes during an unplanned receipt, select the Attributes option. The Attributes option is only enabled if attributes have been defined for the item being received.

The system allows you to enter attributes for single or multiple items and for items that have multiple lot/serials.

- To enter attributes for single or multiple items, select the Attributes option from the Main grid. Then enter the attribute in the Value field and any additional notes in the Remarks field.
- To enter attributes for items that have multiple lot/serials, select the Attributes option from the Multi-Entry window. Then enter the attribute in the Value field and any additional notes in the Remarks field.

Item Grid

Attribute Status

Indicates if attributes have been entered for the item.

-  Full circle . Indicates there is no action needed by user because all attributes have been entered or it is an existing lot so they cannot update the attribute value but only the remarks.
-  Half circle . Indicates that not all the attribute values have been entered.
-  Empty circle . Indicates that no values have been entered.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

The location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

The lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and

inventory attributes such as assay percentage, grade, expiration date, and status code.

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Quantity

The total quantity processed on this inventory transaction. This is the quantity taken out of stock.

Normally issues should be processed against a valid order—sales order or manufacturing order. You can apply field security to this field to restrict access.

The Quantity can be a positive or negative value. If the item is a Serial (S) controlled item, the quantity entered must be 1 or -1, otherwise the system displays the following error message: "Quantity must be 1 or -1 . Please re-enter"

Expire Date

The expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Site Inventory Exceptions grid on the Site panel in **Items**.
- For the item in the Inventory panel in **Items**.

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in the Inventory panel in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/serial/ref combination does not exist. If the site/location/lot/ref combination already exists, this field is read only.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using **Inventory Detail**. PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Assay

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Attributes Grid

Attribute

Displays the attribute ID associated with the item profile.

Label

Displays the label for the selected attribute.

Description

Displays the description of the attribute.

Specification

A short description of the attribute specification. For example, if the item attribute is Country of Origin, this field could display the countries that are acceptable.

The specification is displayed if the Display Specification for Results Entry option is selected in the Item Attributes panel in **Inventory Control**. This description is defined in the item profile.

Measurement

Displays how the attribute is measured or determined. For example, a measurement for flow rate might be expressed as “psi" or “liters/min.”

The measurement is defined in the item profile.

Value

Enter the attribute value in this field.

Result

Displays the result of the attribute value entered in the Value field:

- **Not Entered**. The initial result when values have not been entered for any of the attributes.
- **Conforming**. The result when the value entered is within the accepted specification defined in the item profile.
- **Non-Conforming**. The result when the value entered is not within accepted specification defined in the item profile.
- **Blank**. The result when no specification has been defined for the attribute in the item profile.

Remarks

Optionally, enter any remarks in this field.

Reference

Displays reference information entered in the item profile.

Level

Displays the attribute level (item, lot, or sublot) defined in the item profile.

Scrap Action

To scrap items from inventory, select the item in **Inventory Detail** and select Actions > Scrap. In the Scrap window, fill out the required information in the fields.

This does not apply to components that are lost or unusable as a result of the manufacturing process; there are several other programs for this purpose. For Production Orders, use one of the following actions Production Order Receipt, Operation Activity Transaction, Inventory Scrap Transaction, or Reject Transaction.

Multi Reason

Use the Multi Reason option to specify multiple reasons why items are being scrapped. This option can only be used when the quantity to be scrapped is greater than 1.

For more information, see Multi Reason on page 2699

For detailed instructions on using this option, see Using Multi Reason for Scrap on page 2701

Multi-Entry

Use the Multi-Entry option to scrap items from multiple sites, locations, lot numbers, serial numbers, or lot reference numbers.

For more information, see Multi-Entry on page 2696

For detailed instructions on using this option, see Using Multi-Entry for Scrap on page 2699

Debit and Credit Accounts

Scrap transactions debit Inventory accounts and credit Scrap accounts. With field security set, only those who are authorized can update the account fields.

The Credit account is the Scrap account defined in **Inventory Accounts** for the product line and site or the Scrap account defined in **Product Lines** > Inventory Accounts panel.

The Debit account is the Inventory account defined in Inventory Accounts for the product line and site or the Inventory account defined in **Product Lines** > Inventory Accounts panel.

Reports and Browses

There are reports and an inquiry for reviewing and summarizing item scrap transactions:

- Use the **Scrap** browse to review the scrap transaction history associated with production and production orders.
- Use **Inventory Transactions** and filter for scrap transactions to view the history for all scrap transactions.
- Use Scrap Transaction Browse to review scrap transaction history.
- Use Item Scrap report to review the operations impact of scrap transactions on ranges of items, sites, orders, reason codes, effective dates, or authorization document numbers.
- Use the **Inventory Scrap by Account** to review the cost impact of scrap transactions on ranges of items, sites, reason codes, effective dates, debit accounts, sub-accounts, cost centers or authorization document numbers.

Main

Item

Enter a code identifying an item that you stock in inventory, purchase, manufacture, sell, or service. Item codes can identify raw materials, purchased or manufactured intermediates, finished items, packaging materials, planning items, configured products, service kits, and repair parts used in service activities.

Description 1

The primary description of this item (up to 24 characters).

Description 2

The second line of description of the item. Provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Quantity

Enter the total quantity of material processed on this inventory transaction. This is the quantity taken out of stock.

Reason

If you are not using the Multi Reason or Multi-Entry options, enter the reason for scrapping this item.

- When using the Multi Reason option, leave this field blank and enter the Reasons in the Multi Reason screen.
- When using the Multi-Entry option, leave this field blank and enter the Reasons in the Line Multi-Entry screen.

Each quantity and reason code combination creates a unique Transaction History record. When the same reason code is used on multiple lines, the quantities on those lines are summed to create one Transaction History record with that reason code.

Reason codes are validated against codes set up in **Reason Codes** with Reason Type set to Scrap. This field can be left blank only if a blank reason code is set up for the field in **Reason Codes**.

Some reports and inquiries can be selected by reason code.

Reason Description

A short description of the reason for scrapping this item.

Multi Reason

Indicates whether the Multi Reason option was used to enter multiple reasons for scrapping the inventory items.

When the Multi Reason option is used to enter multiple reasons to scrap inventory items, this field is automatically selected. If you then clear this checkbox after using the Multi Reason option, the system will delete the multiple reasons that were specified in the Multi Reason screen. By default, this checkbox is cleared.

Each quantity and reason code combination creates a unique Transaction History record. When the same reason code is used on multiple lines, the quantities on those lines are summed to create one Transaction History record with that reason code.

Multi-Entry

Indicates whether this transaction references multiple sites, locations, lot number, serial numbers, or lot reference numbers.

When the Multi-Entry option is used to enter multiple lot/serials to issue for an item, this field is automatically selected. If you then clear this checkbox after using the Multi-Entry option to select multiple lot/serials

for an item, the system will delete the multiple lot/serials that were selected in the Multi-Entry screen. By default, this checkbox is cleared.

The system creates an individual transaction history record for each transaction line. The total of all lines is used to update the inventory balance.

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Note Use the Multi-Entry option to enter more than one site on the inventory transaction.

Location

Enter the location code associated with this inventory transaction. Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Note Use the Multi-Entry option to enter more than one location on the inventory transaction.

Lot Control

The Lot Control value for the item determines if a lot or serial number is required. The value, which is set in **Items**, is used as the default for all sites. Set up site-specific values in **Items** > Site panel.

Lot Control values include:

- Blank: The Lot/serial numbers are not required, although they can be recorded as needed.

- L: Lot numbers are required for this item. During issues and receipts, a lot number must be entered. The lot number applies to the entire transaction quantity entered.
- S: Serial numbers are required for this item. During issues and receipts, a unique serial number must be entered for each item. For example, if you receive 10, you must enter 10 serial numbers.

The system maintains complete lot/serial number traceability. Use **Lot Trace Workbench** to track materials by item, lot, or serial, backward and forward through the production process. Included in this tracking functionality is the ability to trace data across multiple levels in the product structure.

Use **Lot Trace Workbench** to view all the lot/serial numbers of components and raw materials used to make a given lot/serial number. **Lot Trace Workbench** also lists the places that an individual lot/serial number was used, all the way to the end customer.

For manufactured items, lot numbers can optionally be assigned by the system by setting Automatic Lot Numbers to Yes. When the item is received into inventory using a production order receipt function, the lot number is set to the work order lot ID.

If you are using Regulatory Attributes, stricter levels of lot and serial control are available. You can also generate lot numbers based on a pattern specified in the Lot Group field.

Note You cannot modify this value from blank to S or L if a quantity of the item already exists in inventory.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required." If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]."

Note Use the Multi-Entry option to issue multiple lot/serials for an item.

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the

production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

UM

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in **Generalized Codes**, if any.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition

helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances: a production order does not increase the balance in the general ledger inventory account until this effective date.

Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the effective date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end these are often different: if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday's date. The entered date is Monday's date.

Note If the user enters an effective date that is not in the open GL period, the system displays the following error: "Period has been closed for entity."

Unit Cost

This value defaults from the setting in **Items** > Site panel > Site Cost Exceptions sub-panel; otherwise, it defaults from the setting in **Items** > Main panel > GL Cost subpanel.

Total Quantity

The total number of items that will be scrapped for this line.

- If you did not use the Multi-Entry or Multi Reason options, this field displays the quantity entered in the Quantity field for his line.
- If you used the Multi-Entry or Multi Reason options, this field displays the total number of items that were entered in those screens.

Total Cost

This value is automatically calculated as follows: Total Quantity * Unit Cost.

Order

Enter the order number associated with this inventory transaction.

When you create an unplanned inventory transaction manually, you can enter an order number for the record. Inventory transactions created by other functions, such as **Sales Orders**, automatically

reference the order number in transaction history. You can use order number to select records to include on some reports and inquiries.

Order number can be a sales order number, production order number, purchase order number, RMA/RTS number, or any other user-defined value. An order number entered on an unplanned inventory transaction is typically for reference. The system does not access this information from other modules. If you enter a production order number on an unplanned issue, it does not appear on the Production Order Costs report.

The system does, however, validate order lines against inventory transactions when you are using Customer Consignment Inventory. When the system identifies inventory that is consigned or when not enough non-consigned inventory exists to fill your order, an error message displays. For customer consigned inventory, use sales order or consignment shipping and usage programs to create inventory transactions.

Line

The line item number associated with this inventory transaction.

When an unplanned inventory transaction is processed, you can manually enter an order line item for the record. When an inventory transaction is processed in another module, the order number and line item remain in transaction history. This field is for reference only and may appear on some selected reports and inquiries.

Employee

Enter the employee code of the person creating this inventory transaction.

Remarks

Specify brief remarks (up to 10 characters) associated with this transaction.

Usually these identify the source or the reason for the transaction—for example, the document number associated with an unplanned transaction. When transactions are recorded in other modules, such as sales, the system sometimes stores information (the packing list or invoice number) in the remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

Authorization Document

Enter the ID number for the document that authorizes the transaction. Some reports and inquiries can be selected by document ID number.

Debit Account

Enter the general ledger (GL) account code used to track debit amounts for this inventory transaction. This must be a valid, active

account of type Standard. This account defaults from the Scrap account in **Product Lines** > Inventory Accounts panel.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Debit Sub-Acct

The general ledger (GL) sub-account to be debited for this inventory transaction. This account defaults from the Scrap account in **Product Lines** > Inventory Accounts panel.

Sub-account code is one component of an account number defined in GL setup functions. Other components of an account number are account, cost center, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use sub-accounts to provide additional detail on GL reports.

Debit Cost Ctr

The general ledger (GL) cost center code to be debited for this inventory transaction. This account defaults from the Scrap account in **Product Lines** > Inventory Accounts panel.

Cost center code is one component of an account number defined in GL setup functions. Other components of an account number are account, sub-account, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use cost centers to provide additional detail on GL reports.

Credit Account

The general ledger (GL) account code used to track credit amounts for this inventory transaction. This must be a valid, active account of type Standard.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

Credit Sub-Acct

The general ledger (GL) sub-account code used to track credit amounts for this inventory transaction.

Sub-account code is one component of an account number defined in GL setup functions. Other components of an account number are account, cost center, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use sub-accounts to provide additional detail on GL reports.

Credit Cost Ctr

The general ledger (GL) cost center code used to track credit amounts for this inventory transaction.

Cost center code is one component of an account number defined in GL setup functions. Other components of an account number are account, sub-account, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use cost centers to provide additional detail on GL reports.

Multi-Entry

For each line, you can use either the Multi Reason option or the Multi-Entry option. You cannot use both options on the same line.

For detailed instructions on using this option, see Using Multi-Entry for Scrap on page 2699

Main

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Location

Enter the location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Note If the item is a Lot (L) or Serial (S) controlled item, a lot/serial number must be entered in this field. If a value is not entered, the system displays the following error message: "Lot/Serial number required." If a lot/serial already exists at the item/site/location combination, the system displays the following error message: "Serial exists at Site, Location [Site, Location]."

Reference

The lot reference, along with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the

production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Quantity

Enter the quantity of material processed on this inventory transaction. This is the quantity taken out of stock.

Reason

Enter the reason for scrapping this item.

Each quantity and reason code combination creates a unique Transaction History record. When the same reason code is used on multiple lines in the Scrap screen, the quantities on those lines are summed to create one Transaction History record with that reason code.

Reason codes are validated against codes set up in **Reason Codes** with Reason Type set to Scrap. This field can be left blank only if a blank reason code is set up for the field in **Reason Codes**.

Some reports and inquiries can be selected by reason code.

Reason Description

A short description of the reason for scrapping the item.

Using Multi-Entry for Scrap

Follow these steps to use scrap items from multiple sites, locations, lot numbers, serial numbers, or lot reference numbers:

1. In **Inventory Detail**, select the item lot and then select the Scrap action.
2. In the Scrap window, enter the Quantity to be scrapped. Then select Multi-Entry.
3. In the Line Multi-Entry screen, enter the Site, Location, Lot/Serial, Reference Number, Quantity, and Reason for the first item.
4. Select New to add another line. Then enter the information for the next item.
5. Continue to add lines until you have entered all items.
6. Select OK to return to the Scrap window. After entering the multiple items, the Multi-Entry checkbox is selected and the Total Quantity fields reflect the total quantity that will be scrapped.

Multi Reason

This option can only be used when the quantity to be scrapped is greater than 1.

The system creates an Inventory Transaction History record for the quantity assigned to each reason code. When multiple lines have the same reason code, the quantities on these lines are summed into one transaction record. The transaction type is ISS-SCRP.

Define reason codes in **Reason Codes** with Reason Type set to Scrap.

For each line, you can use either the Multi Reason option or the Multi-Entry option. You cannot use both options on the same line.

For detailed instructions on using this option, see Using Multi Reason for Scrap on page 2701

Main

Quantity

Enter the quantity of material processed on this inventory transaction. This is the quantity taken out of stock.

Reason

Enter the reason for scrapping this item.

Each quantity and reason code combination creates a unique Transaction History record. When the same reason code is used on multiple lines in the Scrap screen, the quantities on those lines are summed to create one Transaction History record with that reason code.

Reason codes are validated against codes set up in **Reason Codes** with Reason Type set to Scrap. This field can be left blank only if a blank reason code is set up for the field in **Reason Codes**.

Some reports and inquiries can be selected by reason code.

Reason Description

A short description of the reason for scrapping the item.

Using Multi Reason for Scrap

Follow these steps to specify multiple reasons why items are being scrapped:

1. In **Inventory Detail**, select the inventory item and then select the Scrap action.
2. In the Scrap window, enter the Quantity to be scrapped. To use the Multi Reason option, the quantity must be greater than 1.
3. Select Multi Reason.
4. In the Multi Reason screen, enter the Quantity and Reason why the item is being scrapped.
5. Select New to add another line. Then enter the Quantity and Reason for the next item.
6. Continue to add lines until you have entered all Reasons.
7. Select OK to return to the Scrap window. After entering the multiple reasons, the Multi Reason checkbox is selected.

Transfer Action

This action reduces the quantity of the transferred item at one location and increases the quantity at another location. When a location's inventory status code allows overissues, transferring items from that location can cause its inventory balance to become negative.

If the inventory status for the From location is different than the inventory status for the destination location, the system displays a message indicating that the inventory statuses are different. You are prompted to select either the From or To inventory status.

Transferring Customer and Supplier Consigned Inventory

When using this action to transfer regular non-consigned inventory, the system generates transaction history records types (ISS-TR and RCT-TR).

If you are transferring customer consigned inventory, the system generates consignment transaction history records (CN-ISSTR and CN-RCTTR) in addition to the standard transaction history record types. Appropriate GL updates are also made to consignment accounts.

If you are transferring supplier consigned inventory, the following settings must be enabled for the destination location:

- If the destination location is a permanent location, the Transfer Ownership checkbox in **Locations** must be selected.
- If the destination location is not permanent (no location master exists), the Transfer Ownership checkbox in **Sites** must be selected.

When transferring supplier consigned inventory, the system generates consignment transaction history records (RCT-PO and CN-ISS), in addition to the standard transaction history record types. Appropriate GL updates are also made to consignment accounts.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using Operational Transaction Post. Review unposted transactions with Unposted Transaction Inquiry and Register.

Processing an inventory transfer:

- Debits the Inventory accounts for the product lines of the transferred items at the transfer-to site and location.
- Credits the Inventory accounts for the product lines of the transferred items at the transfer-from site and location.

You can define inventory accounts for product line, site, and location combinations in Inventory Accounts. Otherwise, the system uses the default accounts set up by product line in **Product Lines**.

When inventory transactions affect more than one site, costs may differ between the two sites. Cost variances are posted to the Transfer Variance account defined for the item product line and site in **Inventory Accounts**. Otherwise, the account defined for the site in **Sites** is used.

The system automatically generates the appropriate balancing transactions in the GL for each site:

- When the transfer-from and transfer-to sites are in different entities, a balancing entry is posted to the appropriate Cross-Company GL Account defined in **Domains**.
- When the two sites are in the same entity, a balancing debit or credit is posted to the Transfer Clearing account defined in **Inventory Control** > Inventory Accounting panel.
- When transferring between sites, any cost sets at the transfer-to site that use the average or last cost method are updated based on the item costs at the transfer-from site.

Changing the Lot/Serial and Reference Information

If necessary, you can use this action to only change the Lot/Serial and Reference of an item lot. It is not required that the items are transferred to a different site and location. To do this, you would enter the new lot/serial and reference information in the To Lot/Serial and To Reference fields.

Creating Shipping Documents

In some business environments, formal shipping documents must accompany any movement of goods, even when goods are merely transferred and not sold. When using this action to transfer inventory

between two different sites or two different locations/addresses, global shipping functions determine if a shipping document is needed. If a shipping group is set up in **Shipping Groups** with a valid inventory movement code (ISS-TR and/or CN-ISS TR) for the sites or locations with a physical address specified in the Transfer action, an additional Shipping Documents panel is displayed to let you create a shipping document for the shipment.

Note If you create non-sales shippers when using the Transfer transaction, tax is not created.

Using the Transfer Action

Follow these steps to transfer an item to a different site and/or location using the Transfer action:

1. In **Inventory Detail**, select the item to be transferred and then select Transfer from the Action menu.
2. In the Main panel, enter the Quantity of items to be transferred.
3. Enter the Effective Date or accept the default value, which is the system date.
4. Optionally, enter a Production Order or Sales/Job number or any Remarks to associate with this transaction. The information entered in these fields is for reference only.
5. In the Transfer panel, enter the target destination for the items by entering the To Site and To Location.
6. If a lot/serial or reference change is required, enter the new information in the To Lot/Serial and To Reference fields.
7. If a shipping group is set up with a valid inventory movement code for the sites specified in this transaction, an additional Shipping Documents panel is displayed to let you create a shipping document for the shipment:
    a. To create a non-sales shipper for this transaction, verify that the Create Shipping Document checkbox is selected.
    b. If the Inventory Movement Code field is enabled, make any changes if necessary or accept the default value.
    c. In the Shipper field, you can:
        - Leave this field blank to allow the system to automatically generate a shipper number.
        - Enter an existing unconfirmed shipper number to consolidate the transferred items with another shipment. In this scenario, the From and To Sites for the shipper you enter must match the From and To Sites in the Transfer panel. The Consolidate Shipment field must also be set to Yes.
    d. To print the shipping document, verify that the Print Shipper checkbox is selected.

e. In the Shipping Options panel, enter the Document Format and the Language.

f. If you are consolidating the transferred items with another shipment, set the Consolidate Shipment field to Yes.

g. In the Carriers panel, verify that the carrier information is correct. If necessary, add a carrier to the grid.

h. Enter the Ship Via information. This field is mandatory.

i. Optionally, enter additional shipping information in the Terms of Trade Point, Mode of Transport, Carrier Shipment Reference, Vehicle ID, Payment Type, and Carrier Account fields.

8. Select Submit to transfer the items, with or without a lot/serial change.

   If the inventory status for the From location is different than the inventory status for the destination location, when you select Submit, the system displays a message indicating that the inventory statuses are different. You are prompted to select either the From or To inventory status:

   - If you select To, the system uses the inventory status code of the Transfer To location and then completes the transfer.
   - If you select From, the system checks whether there is inventory in the Transfer To location before completing the transfer.
     - If Quantity on Hand is not zero, you cannot do the transfer and the system will show an error message.
     - If Quantity on Hand is zero and there is no physical inventory in the destination, the inventory will be transferred.

Main

Item

The item that is being transferred. Value defaults from browse.

From Lot/Serial

The lot number of the item being transferred. Value defaults from browse.

Quantity

Enter the quantity of inventory to transfer to the destination site/location.

Effective Date

Enter the general ledger (GL) effective date for this transaction. The default is the system date.

This date determines when this transaction affects GL balances.

Production Order

If applicable, specify the production order number associated with this inventory transaction.

Sales/Job

Optionally, enter a sales or job number to associate this inventory transaction with a particular unit of work.

Sales/job numbers can be referenced on sales orders, purchase orders, production orders, intersite requisitions, and inventory transactions. The sales/job number is stored in transaction history, letting you review the progress of activities associated with a particular sales order, contract, or job number.

Sales/job numbers are not validated and have no GL effect. Use project code to record the cost of a particular job in the GL.

Remarks

Use this field to type any comments that you want to record with the transfer.

Transfer

From Site

The site from which the inventory is being transferred. Value defaults from browse.

From Location

The location from which the inventory is being transferred. Value defaults from browse.

From Lot

The lot number of the inventory being transferred. Value defaults from browse.

From Reference

The reference number of the inventory being transferred. Value defaults from browse.

From Inventory Status

The inventory status code associated with the inventory quantity at the original location. Value defaults from browse.

Inventory status codes determine whether specific inventory balances on hand are available for allocation to sales orders or work orders, are considered available by MRP, and are allowed to go negative.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. You can change the status codes in **Inventory Detail**.

To Site

Enter the site to which the inventory is being transferred.

To Location

Enter the location to which the inventory is being transferred.

To Lot

The lot number of the inventory being transferred. Value defaults from browse.

To Reference

The reference number of the inventory being transferred. Value defaults from browse.

To Inventory Status

The inventory status code associated with the inventory quantity at the target location.

Shipping Documents

If a shipping group is set up in **Shipping Groups** with a valid inventory movement code (ISS-TR and/or CN-ISS TR) for the sites or locations specified in the Transfer action, this panel is displayed to let you create a shipping document for the shipment.

Create Shipping Documents

Select this checkbox to create a non-sales shipper for the transfer transaction. By default, this checkbox is selected.

Inventory Movement

Displays the default inventory movement code that is defined in **Shipping Groups** for this transfer transaction.

If there is only one inventory movement code defined for the shipping group, this field is read only. If there is more than one inventory movement code defined for the shipping group, you can change the code or accept the default.

Shipper

The shipper number for this transfer transaction. By default, this field is blank. When entering the shipper number, you can:

- Leave the field blank to allow the system to automatically generate a shipping number.
- Enter an existing unconfirmed shipper number to consolidate the transferred items with another shipment. In this scenario, the From and To Sites/Locations for the shipper entered must match the From and To Sites/Locations in the Transfer panel. The Consolidate Shipment field must also be set to Yes. Upon Submit, the existing shipper is updated to include the transferred items.

Shipping Group

Displays the shipping group associated with the transfer transaction.

Status

Displays the current status of the shipper, which defaults from the Create Shipper field in the **Logistics Control** > Non-Sales Shipper panel:

- If the Status field in **Logistics Control** is set to Confirmed or Unconfirmed, then this field is read only.
- If the Status field in **Logistics Control** is set to Optional, then this field is enabled, allowing you to set the status to Confirmed or Unconfirmed.

Print Shipper

Select this checkbox to print the non-sales shipping document for this transfer transaction after clicking Submit.

Shipper Options

Document Format

The document format used to print this shipper. The document format must be a valid format of a type applicable to shippers. This value defaults from the setting in **Shipping Groups** and then if not defined, it defaults from **Logistics Control**.

Language

The language for the shipper, which defaults from the setting in **Domains**.

Consolidate Ship

Specifies whether consolidating shipments with an existing unconfirmed non-sales shipper is prohibited or allowed. This value defaults from the Consolidate Ship field in **Shipping Groups**:

- If the Consolidate Ship setting in **Shipping Groups** is Yes or No, then this field is read only.
- If the Consolidate Ship setting in **Shipping Groups** is Optional, then this field is enabled, allowing you to set the value to Yes or No.

Carriers

This panel displays the list of carriers that were set up in **Shipping Groups** for the associated inventory movement code. If necessary, you can add a carrier to the grid by clicking New.

Sequence

This field indicates the order in which the various carriers handle shipments. The Ship-From site of a shipment turns over possession to the first carrier, which may later turn over possession to a second carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

Carrier

The carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name

Displays the name of the Carrier as defined in **Carriers**.

Ship Via

Enter a code identifying the carrier responsible for this shipment. This field is mandatory. By default, this field is blank.

Terms of Trade Point

Enter the terms of trade point for this shipment. The terms of trade point identifies when title passes to the buyer from the seller, as well as who pays shipping. By default, this field is blank.

Mode of Transport

Enter the mode of transport for the shipment such as air or sea. This field is for reference only. By default, this field is blank.

Carrier Shipment Reference

Enter a shipment reference number supplied by the carrier such as a bill of lading number, carrier tracking number, or packing slip number. By default, this field is blank.

Vehicle ID

Optionally, enter an identifier representing the carrier's vehicle. This field is for reference only. By default, this field is blank.

Payment Type

Specify the payment type. Use Payment Type and Carrier Account to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Carrier Account

Specify the carrier account code. Use Carrier Account and Payment Type to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Print Labels Action

Main

Item

Displays the item for the label. The value is taken from the selected record in the Inventory Detail browse.

Site

Displays the site for the label. The value is taken from the selected record in the Inventory Detail browse.

Lot/Serial

Displays the lot/serial of the item. The value is taken from the selected record in the Inventory Detail browse.

Reference

Displays the reference of the item. The value is taken from the selected record in the Inventory Detail browse.

Quantity

Enter the item quantity.

Label Format Identifier

Select the label format the system uses when printing labels. This field is mandatory.

Number of Labels

Enter the number of labels to print. This field is mandatory.

Output

Use this field to identify the printer for the labels. A lookup displays the available options currently defined in Label Printers.

Address

Enter the address for the labels.

Pack Code

Optionally, enter the pack code for the labels.

Bulk Edit Action

When items are received into inventory, they are assigned Assay %, Grade, Expire Date, and Inventory Status. There are three ways to assign inventory attributes:

- They are preset using attribute default settings.
- They are set at the time of receipt when using receipt functions.
- They are modified using **Inventory Detail** or the **Inventory Detail** > Bulk Edit action.

Separate inventory attributes are stored for each combination of site, location, item number, lot/serial, and reference.

A complete audit trail of all inventory transactions is maintained in transaction history (tr_hist). These can be reviewed in **Inventory Transactions**. Each transaction is identified by a transaction number and a transaction type. Two transaction types, ISS-CHL and RCT-CHL, maintain records of the original attributes and the new attributes.

You should define menu security for this program to restrict access.

Default Options

Edit Inventory Status

Select this option to override the item's existing Inventory Status. When this option is selected, the lookup is activated, allowing you to enter a new inventory status code to associate with this inventory quantity.

If you want to remove existing attribute data, select this option and leave the field blank.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Set up inventory status codes in **Inventory Status**.

Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- The production order or PO Receipt Status settings in **Items**
- Settings in **Inventory Detail**
- The default inventory status for the receiving location or site, set up in **Locations**or **Sites**

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers.

You can apply field security to this field to restrict access.

Edit Expire Date

Select this option to override the item's existing Expire Date. When this option is selected, the date field is activated allowing you to enter a new Expire Date.

If you want to remove the existing attribute data, select this option and leave the field blank.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in **Items** > Site panel > Site Inventory Exceptions grid
- For the item in **Items** > Inventory panel

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in **Inventory Control** > Inventory panel. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.

Edit Grade

Select this option to override the item's existing Grade. When this option is selected, the lookup is activated, allowing you to enter a new grade to associate with this inventory quantity.

If you want to remove the existing attribute data, select this option and leave the field blank.

Usually, Grade identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

Edit Assay %

Select this option to override the item's existing Assay %. When this option is selected, the lookup is activated, allowing you to enter a new Assay % to associate with this inventory quantity. Usually identifies the percent solution.

If you want to remove the existing attribute data, select this option and leave the field blank.

Criteria

Search Criteria

Displays the search criteria entered in the**Inventory Detail** browse filters.

Search

After entering the information in the Default Options panel, select Search to populate the **Inventory Detail** panel.

Reset Criteria

Select Reset Criteria to reset all the fields in the Default Options panel to their default settings.

Inventory Detail

Item

The item number this update will affect.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Description

The primary description of the item.

Site

The site this update will affect.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Location

The location this update will affect.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Site Quantity

The item quantity at the selected site.

Location Quantity

The item quantity at the selected location.

UM

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in **Generalized Codes**, if any.

Lot/Serial

The lot/serial number associated with this inventory quantity.

Reference

The lot reference number this function will affect.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Inventory Status

The inventory status code associated with the inventory quantity at the original location. Value defaults from browse. If necessary, you can enter a new inventory status code to associate with the inventory quantity.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Set up inventory status codes in **Inventory Status Codes**.

Expire Date

The expiration date associated with this specific inventory quantity. If necessary, you can enter a new expire date to associate with the inventory quantity.

Grade

The grade associated with this inventory quantity. Grade usually identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods. If necessary, you can enter a new grade to associate with the inventory quantity.

Assay %

The assay percentage associated with this inventory quantity. Usually identifies the percent solution. If necessary, you can enter a new assay % to associate with the inventory quantity.

Using Bulk Edit

Follow these steps to change the inventory attributes of item numbers and/or lot/serials:

1. In **Inventory Detail**, select the Bulk Edit action. The Bulk Edit screen opens.
2. In the Default Option panel, specify which inventory attributes you want to change by selecting the appropriate checkbox.

- If you do not want to change an attribute, do not select the checkbox.
- If you want to apply the same attribute data to multiple items, select the appropriate checkbox and enter the new attribute in the field.
- If you want to enter different attribute values for multiple items, select the appropriate checkbox and leave the field blank.

3. After entering the inventory attributes, select Search to populate the Inventory Detail panel. By default, each item is selected.
4. In the Inventory Detail panel, specify which items will have their inventory attributes updated by selecting the corresponding checkboxes. If necessary, you can enter new attribute date to associate with a specific inventory quantity.
5. Select Submit to update the inventory attributes for the selected items.

Bulk Transfer Action

This action allows you to select items to transfer by item number, product line, default supplier, ABC class, or any combination of these criteria.

This action transfers the entire quantity on hand for each selected item from the specified transfer-from location. If you need to transfer only some of the quantity on hand of a particular item, do this using the Transfer action.

When you define a location as permanent in **Locations**, that location is maintained in the system even when its quantity on hand is zero.

The Transfer Zero on Hand option determines whether zero quantities at permanent transfer-from locations are reflected at permanent transfer-to locations for items that match the specified selection criteria.

- When this option is selected and the item's quantity on hand is zero, the system creates a new record for that item at the transfer-to location with a quantity of zero. Use **Zero Balance Delete/Archive** to delete zero-quantity item records from inventory locations as needed.
- When this option is not selected, the system skips items that have an on-hand quantity of zero and does not create records for them at the transfer-to location.

The Transfer if Different Status option determines if items may be transferred into a site and location that has a different inventory status than the current one.

- When this option is selected, the system transfers items regardless of inventory status and automatically assumes the default inventory status of the transfer-to location.

- When this option is not selected, the system transfers only items whose inventory status matches the default inventory status of the transfer-to location.

Reversing a Transfer

To reverse an inventory transfer, switch the values in the Transfer From Site and Location fields with those in the Transfer To Site and Location fields. Then, use the Transfer or Bulk Transfer action again for the same item or group of items as in the original transaction.

Inventory Transaction Records

Inventory transfers generate transaction history record types ISS-TR and RCT-TR.

Consigned Inventory

If you are using the optional Customer Consignment Inventory module, additional transactions occur when you transfer consigned items. In addition to the standard transaction history record types (ISS-TR and RCT-TR), consignment transaction history (CN-ISSTR and CN-RCTTR) is also generated. Appropriate GL updates are also made to consignment accounts.

If you are using the optional Supplier Consignment Inventory module, additional transactions occur when you transfer consigned items when Transfer Ownership is selected for the receiving location. In this case, consignment transaction history (RCT-PO and CN-ISS) is generated in addition to the standard transaction history record types (ISS-TR and RCT-TR). Appropriate GL updates are also made to consignment accounts. When reversing a correction to a transaction, the destination site settings must have the Transfer Ownership option in Sites selected.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using Operational Transaction Post. Review unposted transactions with Unposted Transaction Register.

Processing an inventory transfer:

- Debits the Inventory accounts for the product lines of the transferred items at the transfer-to site and location.
- Credits the Inventory accounts for the product lines of the transferred items at the transfer-from site and location.

You can define inventory accounts for product line, site, and location combinations in Inventory Accounts. Otherwise, the system uses the default accounts set up by product line in **Product Lines**.

When inventory transactions affect more than one site, costs may differ between the two sites. Cost variances are posted to the Transfer Variance account defined for the item product line and site in Inventory Accounts, if available. Otherwise, the account defined for the site in **Sites**is used.

The system automatically generates the appropriate balancing transactions in the GL for each site.

When the transfer-from and transfer-to sites are in different entities, a balancing entry is posted to the appropriate Cross-Company Inventory Control account defined for the domain referencing the intercompany codes associated with the entities.

When the two sites are in the same entity, a balancing debit or credit is posted to the Transfer Clearing account defined in **Inventory Control** > Inventory Accounting panel.

When transferring between sites, any cost sets at the transfer-to site that use the average or last cost method are updated based on the item costs at the transfer-from site.

Options

From Site

Enter the site from which the inventory is being transferred. Value defaults from browse.

From Location

Enter the location from which the inventory is being transferred. Value defaults from browse.

Effective Date

Enter the date the stock should be transferred.

To Site

Enter the site to which the inventory is being transferred.

To Location

Enter the location to which the inventory is being transferred.

Remarks

Use this field to type any comments that you want to record with the transfer.

Criteria

Search Criteria

Displays the search data entered in the browse filter.

Required Criteria

Displays the transfer From Site and From Location entered in the Options panel.

Additional Criteria

Transfer Different Status

Select this option if items may be transferred into a site and location that has a different inventory status than the current one.

- **Selected.** When selected, the transfer is processed regardless of the inventory status.
- **Not Selected.** When not selected, the system only transfers items from one site and location to another if they have the same status at the To site and location.

The Bulk Transfer action takes a range of items and transfers them from one site and location to another. It is possible that the location may be set up with a different status at the other site and location. For example, location 1 at site 1 may have a status code which is Nettable, but at site 2 it may have a status code which is Non-nettable. If you allow an item to be transferred from a nettable to a non-nettable status, MRP will no longer see this as quantity on hand. You may or may not want to do this.

Transfer Zero On Hand

Select this option to transfer items with a zero on-hand balance.

- **Selected.**When selected, items with a zero on-hand balance are transferred.
- **Not Selected.**When not selected, items with a zero on-hand balance are not transferred.

Inventory locations can be set up as Temporary or Permanent. When locations are set up as Permanent, the system maintains inventory details even after the on-hand balance falls to zero. Temporary locations are created and deleted automatically by the system.

The use of temporary locations helps to keep inventory reports at a reasonable length, particularly when there are lot/serial controlled items with zero balances. When a location is defined as permanent, all location details are maintained on the system until they are deleted using the **Zero Balance Delete/Archive**.

Permanent inventory locations may be desirable when items have fixed or designated stocking locations. For example, a particular resistor is always stored in a specific bin location. Even if the inventory balance falls to zero, you want to see that on reports and inquiries.

If location coding schemes are changed, you may want to transfer all items, regardless of their on-hand balance, to the new location.

Search

Select Search to populate the Transfer panel with items that are available to transfer based on the information entered in the Options and Additional Criteria panels.

Reset Criteria

If updates are made to the fields in the Options and Additional Criteria panels, select Reset Criteria to refresh the results in the Transfer panel.

Transfer

Item

The item that is being transferred. Value defaults from browse.

Item Description

The primary description of the item.

From Site

The site from which the inventory is being transferred.

From Location

The location from which the inventory is being transferred.

Location Quantity

Quantity at selected location.

Unit of Measure

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in **Generalized Codes**, if any.

Lot/Serial

The lot/serial number associated with this inventory quantity.

Inventory Status

The inventory status code associated with the inventory quantity at the original location. Value defaults from browse.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Set up inventory status codes in **Inventory Status Codes**.

Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- The production order or PO Receipt Status settings in **Items**.
- Settings in **Inventory Detail**.

- The default inventory status for the receiving location or site, set up in **Locations** or **Sites**.

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers.

You can apply field security to this field to restrict access.

If you do not have access to the Inventory Status field (Id_status), transferred items must assume the default inventory status of the transfer-to location. In this case, you must respond Yes to the "Use to status?" prompt. For example, a restricted user transferring items from location 100, with a default inventory status of GOOD, to location 200, with a default inventory status of INSPECT, cannot have the transferred items retain the GOOD inventory status.

Shipping Documents Panel

The Shipping Documents panel, Shipper Options and Carriers sub-panels will be displayed if there is a shipping group configured for the site or the location combination entered in the Options panel.

Create Shipping Documents

Select this checkbox to create a non-sales shipper for the transfer transaction. By default, this checkbox is selected.

Inventory Movement

Displays the default inventory movement code that is defined in Shipping Groups for this transfer transaction.

If there is only one inventory movement code defined for the shipping group, this field is read only. If there is more than one inventory movement code defined for the shipping group, you can change the code or accept the default.

Shipper

The shipper number for this transfer transaction. By default, this field is blank. When entering the shipper number, you can:

- Leave the field blank to allow the system to automatically generate a shipping number
- Enter an existing unconfirmed shipper number to consolidate the transferred items with another shipment. In this scenario, the From and To Sites/Locations for the shipper entered must match the From and To Sites/Locations in the Transfer panel. The Consolidate Shipment field must also be set to Yes. Upon Submit, the existing shipper is updated to include the transferred items.

Shipping Group

Displays the shipping group associated with the transfer transaction.

Status

Displays the current status of the shipper, which defaults from the Create Shipper field in the Logistics Control > Non-Sales Shipper panel:

- If the Status field in Logistics Control is set to Confirmed or Unconfirmed, then this field is read only.
- If the Status field in Logistics Control is set to Optional, then this field is enabled, allowing you to set the status to Confirmed or Unconfirmed.

Print Shipper

Select this checkbox to print the non-sales shipping document for this transfer transaction after clicking **Submit.**

Shipper Options Subpanel

Document Format

The document format used to print this shipper. The document format must be a valid format of a type applicable to shippers. This value defaults from the setting in Shipping Groups and then if not defined, it defaults from Logistics Control.

Language

The language for the shipper, which defaults from the setting in Domains.

Consolidate Ship

Specifies whether consolidating shipments with an existing unconfirmed non-sales shipper is prohibited or allowed. This value defaults from the Consolidate Ship field in Shipping Groups:

- If the Consolidate Ship setting in Shipping Groups is Yes or No, then this field is read only.
- If the Consolidate Ship setting in Shipping Groups is Optional, then this field is enabled, allowing you to set the value to Yes or No

Carriers Subpanel

This panel displays the list of carriers that were set up in Shipping Groups for the associated inventory movement code. If necessary, you can add a carrier to the grid by clicking **New**.

Sequence

This field indicates the order in which the various carriers handle shipments. The Ship-From site of a shipment turns over possession to the first carrier, which may later turn over possession to a second

carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

Carrier

The carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name

Displays the name of the Carrier as defined in Carriers.

Ship Via

Enter a code identifying the carrier responsible for this shipment. This field is mandatory. By default, this field is blank.

Terms of Trade Point

Enter the terms of trade point for this shipment. The terms of trade point identifies when title passes to the buyer from the seller, as well as who pays shipping. By default, this field is blank.

Mode of Transport

Enter the mode of transport for the shipment such as air or sea. This field is for reference only. By default, this field is blank.

Carrier Shipment Reference

Enter a shipment reference number supplied by the carrier such as a bill of lading number, carrier tracking number, or packing slip number. By default, this field is blank.

Vehicle ID

Optionally, enter an identifier representing the carrier's vehicle. This field is for reference only. By default, this field is blank.

Payment Type

Specify the payment type. Use Payment Type and Carrier Account to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Carrier Account

Specify the carrier account code. Use Carrier Account and Payment Type to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Creating Shipping Documents

In some business environments, formal shipping documents must accompany any movement of goods, even when goods are only transferred and not sold. When using this action to transfer inventory between two different sites, global shipping functions determine if a shipping document is needed. If a shipping group is set up in Shipping Groups with a valid inventory movement code (ISS-TR and/or CN-ISS

TR) for the sites/locations specified in the Transfer action, an additional Shipping Documents panel is displayed to let you create a shipping document for the shipment.

Note If you create non-sales shippers when using the Transfer transaction, tax is not created.

Using Bulk Transfer

Use the Bulk Transfer action to transfer the entire on-hand quantity of an item or group of items from one site or location to a different site or location.

Follow these steps to use the Bulk Transfer action to transfer items from one site or location to a different site or location:

1. In Inventory Detail, use the browse filters to search for the items to transfer. Then select the Bulk Transfer action. The Bulk Inventory Transfer screen opens.
2. In the Options panel, enter the relevant transfer information in the From Site, From Location, To Site, To Location, Effective Date, and Remarks fields.
3. In the Options panel, specify if the items may be transferred into a site and location that has a different inventory status than the current one (Transfer Different Status) and if you want to transfer items with a zero on-hand balance (Transfer Zero On Hand).
4. Select Search to populate the Transfer panel with the items available to transfer based on the Search Criteria and Options. By default, each item is selected.
5. In the Transfer panel, specify which items will be transferred by selecting the corresponding check boxes.
6. Select Submit to transfer the items.

Using Bulk Transfer

Follow these steps to use the Bulk Transfer action to transfer items from one site or location to a different site or location:

1. In **Inventory Detail**, use the browse filters to search for the items to transfer. Then select the Bulk Transfer action. The Bulk Inventory Transfer screen opens.
2. In the Options panel, enter the relevant transfer information in the From Site, From Location, To Site, To Location, Effective Date, and Remarks fields.
3. In the Additional Criteria subpanel, specify if the items may be transferred into a site and location that has a different inventory status than the current one (Transfer Different Status) and if you want to transfer items with a zero on-hand balance (Transfer Zero On Hand).
4. Select Search to populate the Transfer panel with the items available to transfer based on the Search Criteria, Required Criteria, and Additional Criteria. By default, each item is selected.

5. In the Transfer panel, specify which items will be transferred by selecting the corresponding check boxes.
6. Select Submit to transfer the items.

Lot Groups

By entering specified character and number sequences, you can have lot numbers that are meaningful to your company processes. You can restrict lot groups to individual sites or they can apply to all sites. Assign lot groups to items in **Items**.

If a lot group record is altered or removed after lot numbers have been generated, the continuity of lot numbers will be broken. Additionally, automatically generated lot numbers are not recycled if they are not used at the time they are assigned. It is possible for gaps to appear in the sequencing of auto lot numbers if, for example, a receipt transaction is canceled before inventory is received.

Set up lot number formats that are identified by production type or other pertinent information. The numeric portion of the lot number is incremented whenever a new Lot/Serial number is assigned. You can then have continuous lot sequences for specific locations or other custom information.

Assigning Lot Groups to Items

Use **Items** to set up items for automatic lot numbering. The following fields in **Items** affect automatic lot numbers:

- **Lot Control.** Set this option to Lot. Automatic lot numbering only works with lot-controlled items (Lot). It does not work with serial-controlled items.
- **Auto Lot Numbers.** Select this option to activate automatic lot numbering for this item if Lot Control is Lot.
- **Lot Group.** An optional lot group format. When the system assigns automatic lot numbers, it uses the format set up for the lot group that is entered in this field. If Lot Group is blank, Lot Control is Lot, and Auto Lot Numbers is selected, production orders are assigned a lot number equal to the Production Order ID. However, lot numbers must be entered manually on purchase order and repetitive receipts in this case.

Main

Lot Group

An eight-character field that defines the format for assignment of automatic lot numbers.

If Auto Lot Numbers is selected, the system assigns automatic lot numbers. If a lot group is entered in **Items**, automatic lot numbering will follow the format specified by the lot group. If Auto Lot Numbers is selected and Lot Group is blank, production orders use the production

order ID as the lot number and purchase orders are *not* assigned lot numbers.

Automatic lot numbers are assigned by purchase order receipts, production order receipts, and production activity transactions.

Site

The site where this lot group is valid. Leave blank to apply the lot group to all sites.

You can have one lot group for multiple sites and use different groups for each site.

Leading Characters

Begin the automatic lot number with these characters. Use up to 12 characters.

Text entered here is be used as the leading text for the lot number of this lot group.

The total length of the auto lot field is 18 characters. Leading characters plus sequence length plus trailing characters must total 18 characters or less. For example, selecting 6 here leaves up to 12 characters for the other lot group fields.

Sequence Length

The number of characters to allow for the numerical portion of automatic lot numbering. Must be between 5 and 10. The default is 5.

Choosing 5 provides up to one hundred thousand numeric possibilities of automatic lot numbers. Selecting 10 provides up to 10 billion possible lot numbers.

The total length of the auto lot field is 18 characters. Leading characters plus sequence length plus trailing characters must total 18 characters or less. For example, selecting 6 here leaves up to 12 characters for the other lot group fields.

This length only refers to the numeric portion of the lot number. It does not restrict the leading and trailing portions.

Sequence

Automatic lot numbering begins with the number entered here. The leading characters are added to the front of this number. The trailing characters are appended at the end.

Begin the numerical portion of automatic lot numbering with this number. It is incremented by one each time a new lot number is assigned.

The default is 1.

When the lot number has been incremented to the highest number allowed by the sequence length (99999...), you get an error message and need to create a new lot group.

Trailing Characters

End the automatic lot number with these characters. Use up to 12 characters.

Text entered here is used as the trailing text for the lot number of this lot group.

The total length of the auto lot field is 18 characters. Leading characters plus sequence length plus trailing characters must total 18 characters or less. For example, selecting 6 here leaves up to 12 characters for the other lot group fields.

Execution File

The program to execute for auto lot numbering.

Execute this program when automatic lot numbering is in effect. The gpauto01.p program is supplied with the system. With full Progress you can create custom programs to suit your company.

Must be a valid program in the local environment.

The default is gpauto01.p.

Lot Master Records

Lot master records identify lot parameters and are used by lot control functions. They also provide user fields for recording lot-specific information.

Note Creating lots with **Lot Master Records** is not recommended. Lots that are created in this screen do not have an order number or a line ID, limiting traceability. This screen is typically used to add additional data. Many user-defined fields are provided to support custom reporting requirements.

Lot/Serial numbers are required only if Lot Control is set to Lot in **Items**.

Set the Lot Control Level in **Inventory Control** > Compliance panel to either 1 or 2. Create lot master records using Lot Masters to convert historical transaction records. When a lot- or serial-numbered item is received into inventory, lot master records are created. Lot/serial-controlled inventory cannot be issued without existing lot master records.

Main

Item

The item number to update.

Lot master information is stored by item number and lot/serial number. If Lot Control Level in **Inventory Control** > Compliance panel is set to 1 or 2, the lot master creates records for each new item number - lot/serial combination received.

When an existing item number is issued, the system checks for a corresponding lot/serial number in the lot master records.

Item UM

The item's unit of measure for this lot.

Lot/Serial

The lot or serial number assigned to the item number.

Lot master information is stored by item number and lot/serial number. If Lot Control Level in **Inventory Control** > Compliance panel is set to 1 or 2, the lot master creates records for each new item number - lot/serial combination received.

When an existing item number is issued, the system checks for a corresponding lot/serial number in the lot master records.

Expired Inventory Transaction

An inventory transaction type to allow for this lot if it becomes expired.

The system restricts transactions to expired inventory. This field enables the movement of expired stock from inventory. Choose a

specific transaction type for the Expired Inv Trans such as ISS-UNP. Then issue the inventory.

Lot UM

The unit of measure for this lot.

If a unit of measure other than the item unit of measure is entered, record a conversion factor in the Lot UM Conversion field. For example, wire held in inventory by weight is measured in spools for a lot. One lot has 10 pounds per spool and another lot has 15 pounds per spool. Use Lot UM and Lot UM Conversion to record this information. This field is for reference only and may appear on some selected reports and inquiries.

Unlike item units of measure, Lot UM is not validated in **Generalized Codes**.

Lot UM Conversion

The default is one.

The conversion factor for converting quantities from lot unit of measure back to item unit of measure. It is expressed as the ratio of lot UM to item UM.

If a unit of measure other than the item unit of measure is entered, record a conversion factor in the Lot UM Conversion field. For example, wire held in inventory by weight is measured in spools for a lot. One lot has 10 pounds per spool and another lot has 15 pounds per spool. Use Lot UM and Lot UM Conversion to record this information. This field is for reference only and may appear on some selected reports and inquiries.

Order

Displays the order number that created the lot or serial number.

Line/ID

Displays the line or ID that created the lot or serial number.

Create Date

Displays the date the lot master record was created.

Last Modified User

Displays the ID of the user who last modified the lost master record.

Controlled Authorities

Create authorities in **Controlled Authorities**. These authorities are assigned, along with countries, to customers, sites, and items. Authorities can have different records for each country.

Controlled Authorities View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the current Authority. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Authority

An agency that controls product movement from one location to another. This is a mandatory field.

Enter a descriptive acronym or short name, up to eight characters long. For example, enter DEA for Drug Enforcement Administration or WHO for World Health Organization.

This field is for reference only.

Name

Enter the name for the agency. This field is for reference only.

Type

Optionally, enter a type. This is a user-defined type to categorize authorities. This field is for reference only.

Group

Optionally, enter a group. This is a user-defined group to categorize authorities. This field is for reference only.

Notes

On the Notes Details view, you can add and edit notes attached to the controlled authority in order to describe special requirements, restrictions, or other specifications.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the controlled authorities.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Controlled Authorities

1. Go to **Controlled Authorities**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Controlled Authorities view on page 2730.
4. Click **Save** to continue.

Modifying Controlled Authorities

1. Go to **Controlled Authorities**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Controlled Authorities

1. Go to **Controlled Authorities**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Controlled Customers

Controlled Customers are used to associate agency control numbers with customer addresses. For example, the US Drug Enforcement Administration assigns a DEA number to every company that handles controlled drugs. Enter US in Country, DEA in Authority, the customer address, and the DEA control number in the Control Number field. Define country codes in Countries Define authority codes in Controlled Authorities. In Controlled Customers, enter the control number, effective dates, and any relevant notes.

Controlled Customers View

Summary Panel

The Summary panel displays the key data of the controlled customer you are creating, including country, authority and address. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Country

Specify an active country previously defined. If you want to include all countries, you can leave this field blank.

Authority

This mandatory field indicates an agency that controls product movement from one location to another.

Address

Enter a valid address. This field is mandatory.

Control Number

Enter the control number to associate with the address.

Start Date

Optionally, enter the date the control number is effective.This field is for reference only.

End Date

Optionally, enter the date the control number expires.This field is for reference only.

Notes Panel

On the Notes Details view, you can add and edit notes attached to the controlled customer.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the controlled customer.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Controlled Customers

1. Go to **Controlled Customers**.
2. Click the **New** button to add a new record.
3. Enter the required and optional information. Click **Save** to continue.

Modifying Controlled Customers

1. Go to **Controlled Customers**.
2. Select the row to modify and click **Edit**, or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Controlled Customers

1. Go to **Controlled Customers**.
2. Select the record to delete and double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Controlled Items

Create a Control Number associated with a country and authority and assign items and control information. Examples are:

- **DEA (Drug Enforcement Agency)**

  Country - United States
  Authority - DEA
  Control Number - 12345678 (NDC - National Drug Code number)

- **NAFTA (North American Free Trade Agreement)**

  Country - Mexico
  Authority - NAFTA
  Control Number - 12345678 (Harmonized Tariff Code)

- **US Commerce Control**

  Country - United States
  Authority - US Exp (US Export Administration)
  Control Number - 12345678 (Export Control Classification)

There is no functionality in the system that uses the information in **Controlled Items**. It is for reference only. Interaction with other modules must be customized by the user.

Controlled Items View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the controlled item you are creating, including country, authority and control number. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Country

Enter an active country previously defined in Countries. If you want to include all countries, you can leave this field blank.

Authority

Enter an agency previously defined in Controlled Authorities. This is a mandatory field.

Control Number

Enter a control number or commodity code to associate with an item. This is a mandatory field.

Use a number that you want to associate with an item -- an NDC number for the US Drug Enforcement Agency, a Harmonized Tariff Code from NAFTA, or an ECCN number from US Commerce Control.

Description

Optionally, add a description of the control number entered above. This field is for reference only and appears on various reports.

Unit of Measure

Optionally, enter a unit of measure associated with the control number entered above.

The unit of measure of a control number can be different than its associated item. Import/export documentation often requires quantities to be specified by weight (pounds or kilograms). This field is for reference only and appears on various reports.

Controlled Items

Add, edit or delete the records directly in the grid or select details to open the Controlled Items Detail View.

Item

Enter an item to assign control information to. Multiple items can be entered for each control number. This is a mandatory field.

Description

Displays the description of the item.

Start Date

Optionally, enter the first effective date to use control information for this item. This field is for reference only and appears on various reports.

End Date

Optionally, enter the last effective date to use control information for this item. This field is for reference only and appears on various reports.

Status

Optionally, enter a status.

If your company requires Harmonized Codes for NAFTA, use this field to enter a Producer Status. This field is for reference only and appears on various reports.

Class

Optionally, enter a class.

If your company requires NDC (National Drug Code) numbers, use this field to enter drug classes -- class 1, 2, or 3. If your company is NAFTA compliant, use this field to enter a RVC (Regional Value Content) value. This field is for reference only and appears on various reports.

Preference Criteria

Optionally, enter a preference criteria.

If your company is NAFTA compliant, use this field to enter a Preference Criteria code. This field is for reference only and appears on various reports.

Address

Optionally, enter a default address to use with the item. Use address for a manufacturer, a principle exporter or importer, or a primary ship-from location. This field is for reference only and appears on various reports.

Address

Optionally, enter a default address to use with the item. Use address for a manufacturer, a principle exporter or importer, or a primary ship-from location. This field is for reference only and appears on various reports.

Originating Country

Optionally, enter a valid country where this item is usually manufactured. This reference-only field can appear on various reports.

Originating Percent

Optionally, enter the percentage of the item that is usually manufactured in the originating country. Must be between 0 and 100. This field is for reference only and appears on various reports.

Notes

On the Notes Details view, you can add and edit notes attached to the controlled item.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the controlled authorities.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Controlled Items

1. Go to **Controlled Items**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Controlled Items view. on page 2737
4. Click **Save** to continue.

Modifying Controlled Items

1. Go to **Controlled Items**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Controlled Items

1. Go to **Controlled Items**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Controlled Sites

This program can be used to store many types of codes, such as codes associating a DEA number with a site, foreign tax identification numbers, or other numbers associated with sites.

Enter the country, authority, and site or leave the country field blank if the record applies to all countries. Then specify the control number associated with the site. Add notes if required. You can use **Controlled Sites** to store site-specific notes such as import and export instructions.

Main Panel

Country

Specify an active country defined in **Countries**. Leave blank to include all countries.

Authority

Indicates an agency that controls product movement from one location to another. Specify an agency defined in **Controlled Authorities**. This mandatory field is for reference only and appears on various reports.

Site

Sites identify areas where inventory is manufactured or stored. For example, an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these. Usually each site is split into multiple locations where the inventory is actually stored, so you can think of a site as a group of physical locations such as stockrooms, inspection stations and shop floors.

This field is mandatory and must be a valid site. This field is for reference only and appears on various reports.

Control Number

Enter the control number to associate with the site. For example, you can use a DEA number, an HIN number, or other agency identification number. This field is optional.

Start Date

This field indicates the effective date of the control number. It must be a valid date. This field is for reference purposes only and is included in various reports.

End Date

This field indicates the expiration date of the control number. It must be a valid date. This field is for reference only and appears in various reports.

Notes Panel

Use the Notes panel to add, edit, or delete notes for Controlled Sites. To view or edit a note,click Details above the grid in this panel.

Page

The system automatically generates a page number, which is displayed in this field. You can modify the page numbers according to your preference.

Notes

Enter your notes in the textbox. You have the option to associate your note with a master note by clicking the Select Master Note button.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating a Controlled Site

1. Go to **Controlled Sites**.
2. From the toolbar, click the New button.
3. Complete the fields described above.
4. Click Save.

Modifying a Controlled Site

1. Go to **Controlled Sites**.
2. Select the controlled site you want to modify and click Edit. Alternatively, double-click the controlled site.
3. Edit the relevant information.
4. Click Save.

Deleting a Controlled Site

1. Go to **Controlled Sites**.
2. Double-click the controlled site you want to delete.
3. From the toolbar, click the Delete button.
4. A message appears prompting you to confirm the deletion. Click Delete.

General Licenses

General licenses are typically import and export licenses that apply to a country or a group of countries. You can associate licenses with a control number.

Enter the country code, authority code, and license number. Leave Country blank if this license applies to all countries. Enter the control number or ECCN number, defined in Controlled Items. If needed, enter country groups, start and end dates, maximum per shipment values, annual shipment values, and currency for this item.

Note The start and end dates determine the effective dates of the license.

General Licenses maintains general license information for US exports. All products exported from the US require an export license. There is no functionality in the system that uses the information in General Licenses. It is for reference only. Interaction with other modules must be customized by the user.

General Licenses View

Main Panel

Country

Specify a previously defined country code. If you want to include all countries, you can leave this field blank.

Authority

Select a previously defined authority. Authority indicates an agency that controls product movement from one location to another. This field is for reference only.

License Number

Select a previously defined license number to apply to the Control Number / ECCN for this record. General license numbers are defined in the U.S. Commerce Control List.

Control Number / ECCN

Select a previously defined control number. This mandatory field associates the control number or Export Classification Number (ECCN) to the license record. Every product that is exported from the United States requires an Export Control Classification Number (ECCN). These are defined in the U.S. Commerce Control List. Maintain control numbers in Controlled Items.

Country Groups

Optionally use this field to categorize countries. Use letter codes such as those assigned by current Export Administration Regulations. This field is for reference only.

Start Date

Optionally, enter the effective date for this license. This is the first date to apply the license requirements. This field is for reference only.

Maximum Amount

Optionally, enter the maximum dollar amount that can be shipped under this license. This field is for reference only.

Maximum Quantity

Optionally, enter the maximum quantity that can be shipped under this license. This field is for reference only.

Currency

Specify the currency used for the Maximum Amount and Total Amount fields. This field is mandatory. This field is for reference only.

End Date

Optionally, enter the last effective date for this license. This is the last date to apply the license requirements. This field is for reference only.

Total Amount

Optionally, enter the total amount that has been shipped under this license. This field is for reference only.

Total Quantity

Optionally, enter the total quantity that has been shipped under this license. This field is for reference only.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the general license.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the general license.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating General Licenses

1. Go to **General Licenses**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the General Licenses view on page 2743.
4. Click **Save** to continue.

Modifying General Licenses

1. Go to **General Licenses**.
2. Select the row of interest, then click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting General Licenses

1. Go to **General Licenses**.
2. Select the row of your interest and double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Item Lots

Main

Item

The item number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Lot/Serial

The lot/serial number associated with this inventory quantity.

The Lot Control value for the item determines if a lot or serial number is required. The Lot Control value, which is set in the Items view, is used as the default for all sites. Set up site-specific values in the Site panel in the Items view. For more information on the Lot Control setting, see the field definition for Lot Control.

Sublot

The sublot number associated with this inventory quantity. This field is only used when you select the Use Inventory Reference as Sublot option in **Inventory Control** > Item Attributes panel.

UM

The unit of measure for stocking and planning this item lot. The item unit of measure is used for inventory balances, product structures, manufacturing orders, planning, and reporting. Values can be defined with generalized codes.

Attributes

The Attributes panel displays a list of attributes associated with the item lot. In the grid, each attribute is displayed in the parent row, which can be expanded to show the child row displaying the attribute history.

The attribute (parent) row displays the attributes associated with a lot or sublot, including the attribute ID, attribute name, the attribute level, and so on. The information displayed in this row reflects the attribute details defined in Item Attribute Profiles.

This row also allows users to see the attribute values associated with the item lot.

- When the Entered checkbox is selected, it indicates that the attribute value has been entered. The attribute value that was entered is displayed in the Attribute Value field.

- When the Entered checkbox is clear, it indicates that the attribute value has not been entered.

Users can then view the transaction details displayed in the child row to see at what point the attribute value was entered; for example, during receipt transactions or from completing (or closing out) a quality inspection process.

The transaction (child) row displays the attribute history details. The information in this row highlights how the attribute value changes with the transaction, what the conforming/non-conforming result is, if the value was validated, and what the specification is.

For example, if this row displays a receipt transaction (RCT-PO, RCT-WO, or RCT-UNP), it indicates that the attribute value was entered during the receiving process.

This rows also shows how the attribute value changed during the transaction. For example, the Initial Value displays the attribute value that was pulled in when the inventory transaction was started, and the Incoming Value and Attribute Value display the value it was changed to when the inventory transaction was completed. If the Initial Value for a date attribute displays 1/15/20 and the Incoming Value and Attribute Value are 1/22/20, that indicates that the attribute value was change to 1/22/20 during this inventory transaction. If the Initial Value and the Attribute Value are the same and the Incoming Value is blank, that indicates that the attribute values were unchanged during the inventory transaction.

Lastly, this row displays whether the attribute value was conforming or non-conforming (Result field), whether the attribute was validated (Validation check box), and what the specification was (Specification field).

Note If the attribute values were not entered, there will not be a child row showing the attribute history.

Inventory Detail

The Inventory Detail panel displays the inventory details associated with the item lot, including the site and location where the item and lot exist, the inventory status of each location, the quantity that is stored in each location, and so on.

The information displayed in this panel reflects the inventory details displayed in **Inventory Detail**.

Transactions By Item

The Transactions by Item panel displays a list of inventory transactions associated with the item, lot, and sublot.

The Transactions by Item panel displays a list of all the transactions processed for a specific item lot or sublot. In the grid, each transaction is displayed in the parent row, which can be expanded to show the child row displaying the attribute details associated with the transaction.

The transaction (parent) row displays inventory transaction details including the transaction type, transaction date, site, location and so on.

This row allows users to see how the inventory is affected. For example, if this grid only shows an initial receipt transaction, then the user would know that item lot is at the beginning of the process. If this grid displays ISS-CHL (Issue Changelot) and RCT-CHL (Receipt Changelot) transactions, which are generated when a quality order is closed, the user would know that the item lot is at the point of the process where quality testing has been performed. When the quality order was closed, if users reported that items were destroyed or retained, the grid would display the ISS-SCRP (Issue Scrap) and ISS-TR (Issue Transfer) transactions. The user could then see where the retained items were transferred to (Location field).

The attribute (child) row displays a list of attribute details associated with the inventory transaction.

This row allows users to see if an attribute was entered during an inventory transaction by viewing the Initial Value, Incoming Value, and Attribute Value fields. For example, if a value is entered in the Incoming Value field, it indicates that the attribute value was entered during that inventory transaction. If the Incoming Value is blank, then an attribute value was not entered during that transaction.

Users can also see if an attribute value was changed. For example, the Initial Value displays the attribute value when the inventory transaction was started, and the Incoming Value and Attribute Value display the value it was changed to when the inventory transaction was completed. If the Initial Value for a date attribute displays 1/15/20 and the Incoming Value and Attribute Value are 1/22/20, that indicates that the attribute value was change to 1/22/20 during this inventory transaction. If the Initial Value and the Attribute Value are the same and the Incoming Value is blank, that indicates that the attribute values were unchanged during the inventory transaction.

Item Attribute Profiles

Use Item Attribute Profiles to assign attributes to a specific item to be used as:

- A descriptive characteristic for the item
- A lot or sublot attribute for the item and additional details for the attribute, such as the default value and specification
- A control parameter

Related Tasks

Item Attribute Profiles allows users to perform a variety of tasks for managing item attribute profiles. These tasks include creating item attribute profiles, adding attributes to profiles, verifying that the attributes on an attribute profile are set up correctly, and linking a category to an item attribute on an item attribute profile. For more information, see:

- Creating an Initial Item Profile on page 2758
- Creating a Site-Specific Item Attribute Profile on page 2758
- Copy Attributes From Item Profile Action on page 2762
- Copy Attributes from Test Specification Action on page 2763
- Adding Attributes to an Item Attribute Profile on page 2759
- Verify Item Attribute Setup on page 2760
- Linking a Category to an Item Attribute on page 2761

Main

Item

Enter the item number for the attribute profile.

Description 1

Displays the primary item description.

Description 2

The second line of the item description, which provides additional or supplementary information.

Site

Select a site to associate with the item attribute profile.

Note Leave this field blank when first creating a set of attributes for an item. When the Site field is blank, the attributes defined for the item apply to the item, across all sites for the domain. You should only specify a site when defining a deviation for an attribute specification for an item at a site.

Reference

Enter any reference information in this field, such as a reference document for the item and its attribute profile.

Profile Attributes

The Profile Attributes panel displays a list of attributes that have been added to the item attribute profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes window, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes window to select the attribute that will be added to the attribute profile and to specify the attribute parameters.

Attribute

Select an attribute ID to apply to the profile. When you select the attribute ID, the system pulls in the label, description, type, format, and status from the attribute master record.

Label

Displays the label for the selected attribute.

Type

Displays the datatype (character, decimal, integer, date, or logical) associated with the attribute.

Format

Displays the datatype format for the selected attribute (character, decimal, integer, date, logical).

Sequence

Enter a sequence number for the attribute on this profile. The sequence determines the order in which attributes print on reports. To make it easier to add attributes within the sequence later, it is recommended that you number the sequences as 10, 20, 30 rather than 1, 2, 3.

Note The system does not allow you to enter the same sequence number for two different attributes, unless the sequence number is 0. If two attributes have the same sequence number, the system displays an error.

Status

Select Active or Inactive to set the status of the attribute:

- **Active.** When the status is set to Active, the attribute and its parameters are considered when the system processes the item for printing documents and for inventory transactions, such as receiving, allocating, picking, and shipping.

- **Inactive.** When the status is set to Inactive, the attribute and its parameters are not recognized by inventory transactions and by functions that manage materials. The attribute appears in the profile but it is not recognized elsewhere. When the status of an item profile attribute is Inactive, the system does not recognize the attribute for the item. The system also does not recognize the attribute on higher-level profiles for the same item and attribute, such as those for the item and a customer, or for the item and a sales order line.

Print

Select this option if you want the attribute to be printed on documents such as sales orders, production orders, and purchase orders.

Usage

Level

Select or enter the Level parameter, which determines how the attribute and its parameters are applied to the item.

- **Item.** Set the level to Item when the attribute is a characteristic of the item. For example, an item-level attribute would be a field that is defined for an item master record, such as Item Type, Status, and Design Group. Item-level attributes can be defined with parameters to specify a value, specification, and measurement. The values for item-level attributes are fixed and they do not vary from lot to lot, like the fields in **Items**.
- **Lot.** Set the level to Lot when the value for the attribute is specific to an item and a lot and when the attribute is a characteristic of a lot master. The attributes for a lot master apply to that item and lot across all sites and locations within a domain. You can define the default value and specifications of lot-level attributes to determine if an item and a lot are conforming or non-conforming.
- **Sublot.** Set the level to Sublot when the value for the attribute is specific to an item, a lot, and an inventory detail reference and the attribute is a characteristic of a lot master and sublot. Like lot-level attributes, you can define the default value and specifications of sublot-level attributes to determine if an item and a lot are conforming or non-conforming.

  The use of sublot-level attributes should be restricted to implementations where the inventory reference field is used to always identify a sublot. Sublot-level attributes should not be used when the reference field is used to identify objects such as a pallet, container, shelf, or location, or when there is an integration with QAD Warehousing.

Input Method

If the level is set to lot or sublot, select or enter the Input Method parameter:

- **User.** For a lot-level or sublot-level attribute, set the input method to User so that the attribute value can be updated when processing the receipt for an item using supported inventory transactions, such as Purchase Order Receipts.
- **System.** For a lot-level or sublot-level attribute, when the input method is set to System, the attribute is not visible when processing receipt transactions. However, it is recorded for an item lot (and sublot) using **Quality Orders**.

Certification Category

When attributes are displayed on the COA, they are grouped by certification category. If the Certification checkbox is enabled, select the certification category.

Certification Category Label

Displays the label for the selected category.

Certification

The item profile must include all attributes that should be printed on a Certificate of Analysis (COA), including any attributes that are controlled on test specifications that are used to determine if a lot is conforming or non-conforming.

Select this check box to display the item attribute on COA reports.

- For an item-level attribute, if the checkbox is selected, the COA includes the label, the specification, and the default value for the attribute defined on the profile.
- For a lot-level or sublot-level attribute, if the checkbox is selected, the COA includes the attribute label and the specification and value on the quality or lot attribute order.

Attribute Specification

Depending on the attribute datatype, the fields in the Attribute Specification panel will vary.

Default Value

Enter the default value according to the datatype of the attribute. Depending on the Level setting of the attribute, enter the following for the default value:

Datatype	Level Setting	Default Value
Character	Item	Enter the value of the item attribute.

Datatype	Level Setting	Default Value
	Lot/Sublot	Enter the initial value the system displays when a user enters the value for a lot (or sublot) attribute when processing a supported receipt transaction or when recording values on a quality order or test specification. For example, if the item is olives and there is a character attribute for country of origin that allows multiple values, enter the countries that are considered conforming, such as "US, ES, AU."
Decimal/ Integer	Item	Enter the value of the item attribute. For example, if the item is a 100-ml bottle and the integer attribute is Size, you would enter 100 in the Default Value field and ml in the Measurement field.
	Lot/Sublot	Enter the initial value that the system displays when a user enters the value for a lot (or sublot) attribute when processing a supported receipt transaction or when recording values on a quality order or test record.
Date	Item	For a date attribute that is an item-level attribute, set Default Value to User Defined and then select or enter the value for the attribute in the target date field.
	Lot/Sublot	For a date attribute that is either a lot-level or sublot-level attribute, select Manufacture Date or Test Date to calculate the default value. Then select Plus or Minus operator in the field next to the Default Value field and a value in the Interval Value (Day) field.
Logical	Item/Lot/ Sublot	Specify the initial value the system displays when a user enters the value for a lot (or sublot) attribute when processing a supported receipt transaction or when recording values on a quality order or test record: • Selected. If you select the Default Value checkbox, the value entered in the True Value field (Conforming) defaults in the field. • Not Selected. If you do not select the Default Value checkbox, the value entered

Datatype	Level Setting	Default Value
		in the False Value field (Non-conforming) defaults in the field.

Specification Type

For a lot-level or sublot-level attribute that is not a logical attribute, select the specification type that is appropriate for the attribute's datatype. The value that is listed in the lookup depends on the datatype and format for the attribute. Specification types include:

- **None.** For all attributes, when there is no specification required to determine if an attribute value is conforming or not.
- **Greater Than.** For character, integer, and decimal datatype attributes that are expressed in terms such as greater than, greater than or equal to, minimum, and not less than.
- **Min Max Value.** For character, integer, and decimal datatype attributes that are expressed in terms such as min max, between, and range.
- **Less Than.** For character, integer, and decimal datatype attributes that are expressed in terms such as less than, less than or equal to, maximum, and not more than.
- **Tolerance Value.** For integer and decimal datatype attributes that are based on tolerances relative to a target value.
- **Tolerance Percentage.** For integer and decimal datatype attributes that are based on percentage tolerances relative to a target value for decimal, and for integer attributes that do not have a format for percentage.
- **Membership.** For character datatype attributes that specify a list of conforming or non-conforming values for an attribute.
- **Rule Expression.** For more complex specifications that are configured by using software coding that follows Progress Software Corporation constructs and conventions and the variable attribute_value.

Specification

A short description for the attribute specification (48 characters max). For example, if the item attribute is Country of Origin, this field could display the countries that are acceptable. You can use the Reference field to make note of additional information or to refer to a document for the attribute or specification.

Measurement

For character, integer, and decimal datatypes, provide a short description for how the attribute is measured or determined (12

characters maximum). For example, a measurement for flow rate might be expressed as ppm, psi, or cl/sec.

Specification Detail

Displays a system-generated description of the specification.

For example, if the specification is Country of Origin where US, ES, and IT are acceptable countries, this field will display "Include List: US, ES, IT." If the specification is for a value that is greater than or equal to 1% and target value of 2%, this field will display "Target Value:2%; Minimum:1%; Minimum Inclusive:yes;". If there is no specification defined, this field will display "None."

Test

For an item-level attribute, enter the test that determines if the item conforms to the specification.

Test Method

For an item level attribute, enter the test method for this attribute.

Reference

Optionally, specify a reference related to the profile attribute, such as a document or standard.

Interval Value (Day)

When the Default Value field is set to Manufacture Date or Test Date and the Plus/Minus setting is set to either Plus or Minus, enter the number of days that determines the default date, which appears on the screen when users are processing this item.

For example, if the attribute is the Bottling Date and you want to set the default date to the Manufacture Date (+ 1 day), you would set the Default Value field to "Manufacture Date", the Plus/Minus field to "Plus", and the Interval Value (Day) field to "1."

Note This field is only used for attributes that are Date datatype and the attribute level is Lot or Sublot. It is only used in combination with the Default Value field and the corresponding Plus/Minus setting.

Value Required

When a lot or sublot attribute appears on a quality or lot attribute order, select this check box to require that a value for the lot-level or sublot-level attribute is entered and processed for the order status to be changed to closed.

Edit Specification

For a lot-level or sublot-level attribute, select this check box to allow the specification to be overridden by a deviation that is defined on a higher-level profile. For example, an attribute specification on an item profile can have attribute deviations on higher-level profiles defined for the

item and customer, the item, customer, and ship-to, or for a sales order line for the item.

Validation

For a lot-level or sublot-level attribute, select this check box if the entered value and result for this attribute must fall within specification to determine whether the overall result of the quality or lot attribute order is conforming or non-conforming. Do not select this check box for nominal attributes that do not determine whether the result for the order is conforming or non-conforming, such as supplier ID, supplier lot number, or manufacturing part number.

Specification

Depending on the datatype and the specification type that is selected, additional fields appear in the Specification subpanel that require you to enter the attribute specifications.

True Value

Enter the conforming value for the attribute.

Note This field is used in conjunction with the logical datatype, which contains True and False values, such as Organic and Conventional, < 10 ppm and Fail, or Pass and Fail.

False Value

Enter the non-conforming value for the attribute.

Note This field is used in conjunction with the logical datatype, which contains True and False values, such as Organic and Conventional, < 10 ppm and Fail, or Pass and Fail.

Target Value

Enter the target value for the attribute specification.

Minimum Number

Enter the minimum acceptable value for the attribute. This field is available if you select the Greater and Min Max specification types.

Minimum Inclusive

Select this checkbox to include the Minimum Number value in the specification range. For example, if the Minimum Number is 10 and this checkbox is selected, values that are greater than or equal to 10 will be conforming. If this checkbox is not selected, values that are greater than 10 will be conforming. This field is available if you select the Greater and Min Max specification types.

Maximum Number

Enter the maximum acceptable value for the attribute. This field is available if you select the Less Than and Min Max specification types.

Maximum Inclusive

Select this checkbox to include the Maximum Number value in the specification range. For example, if the Maximum Number is 10 and this check box is selected, values that are less than or equal to 10 will be conforming. If this checkbox is not selected, values that are less than 10 will be conforming. This field is available if you select the Greater and Min Max specification types.

Tolerance (-)

Enter the minimum amount of variation from the target value. This field is available if you select the Tolerance Percentage and Tolerance Value specification types.

Tolerance (+)

Enter the maximum amount of variation from the target value. This field is available if you select the Tolerance Percentage and Tolerance Value specification types.

Multiple Values

For a character attribute, select this check box to allow a person to record multiple values for an item lot (and sublot), each value separated by a comma. An example of an attribute that may have multiple values is a blend of olive oil with a Country of Origin attribute that permits more than one country.

Note Do not select this checkbox if the character attribute will only have a single value.

Include List

Enter the list of conforming character values in this field, each separated by a comma.

Exclude List

Enter the list of non-conforming character values in this field, separated by commas.

Note If you enter values in both the Include and Exclude List fields, only the values in the Include list are validated. Values entered in Include List take precedence over the values in Exclude List.

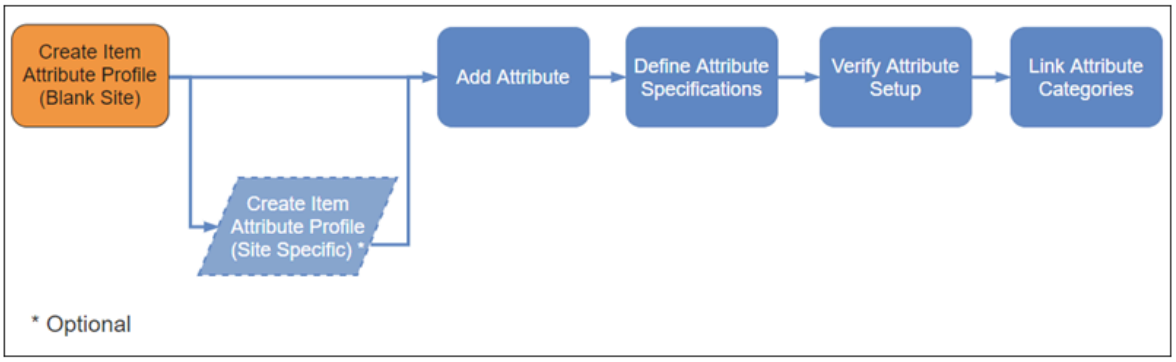
Profile Attribute Categories

Displays the attribute categories associated with the item attribute. To assign a new attribute category to the item attribute, select New and enter attribute category in the Category field.

For detailed instructons, see Linking a Category to an Item Attribute on page 2761.

Creating an Initial Item Profile

The first step when creating an item attribute profiles for inventory items is to create an initial item attribute profile where the Site field is blank.



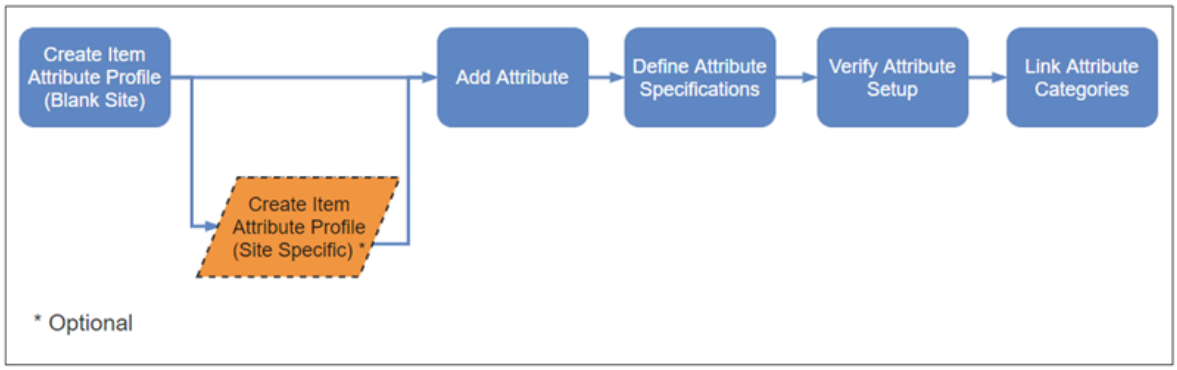
Follow these steps to create an initial item attribute profile:

1. In **Item Attribute Profiles**, select New.
2. Enter the item in the Item field.
3. Optionally, enter any reference information in the Reference field.

   Note Because you are creating an initial item attribute profile, the Site field is inactive.
4. Select Save.
5. Add attributes to this item profile in the following ways:
   - Use the Copy Attributes from Item Profile action to copy the attributes from another item profile. See Copy Attributes From Item Profile Action on page 2762
   - Use the Copy Attributes from Test Specification action to copy the attributes from a test specification. See Copy Attributes from Test Specification Action on page 2763
   - Manually add attributes by following the steps in Adding Attributes to an Item Attribute Profile on page 2759.
6. Link categories to the item attribute profile. See Linking a Category to an Item Attribute on page 2761.

Creating a Site-Specific Item Attribute Profile

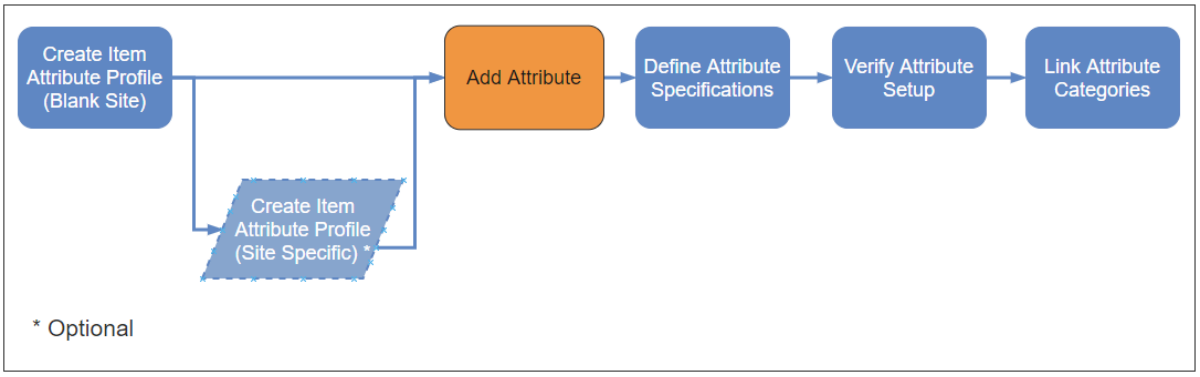
Before creating a site-specific item attribute profile, you must first create an attribute profile for the item where the Site field is blank.



Follow these steps to create a site-specific item attribute profile:

1. In **Item Attribute Profiles**, select New.
2. Enter the item in the Item field.
3. Enter the site in the Site field.
4. Optionally, enter any reference information in the Reference field.
5. Select Save. When you save a site-specific item attribute profile, the Profile Attributes grid is populated with the attributes, which were added to the generic attribute profile with the blank Site field.
6. Add attributes to this item profile in the following ways:
   - Use the Copy Attributes from Item Profile action to copy the attributes from another item profile. See Copy Attributes From Item Profile Action on page 2762
   - Use the Copy Attributes from Test Specification action to copy the attributes from a test specification. See Copy Attributes from Test Specification Action on page 2763
   - Manually add attributes by following the steps in Adding Attributes to an Item Attribute Profile on page 2759.
7. Link categories to the item attribute profile. See Linking a Category to an Item Attribute on page 2761.

Adding Attributes to an Item Attribute Profile



Follow these steps to add attributes to an existing item attribute profile:

1. In **Item Attribute Profiles**, open the attribute profile.
2. In the Profile Attributes panel, select New. The Profile Attributes window opens.
3. In the Attribute field, select the attribute that you want to add to the attribute profile. When the attribute is selected, the Attribute Specification panel is added to the form.
4. Continue entering the necessary information in the Main panel by entering the Sequence, setting the Status (Inactive/Active), and determining if the attribute will print on sales orders, purchase orders, and production orders.
5. Define how the attribute is used by entering the relevant information in the Usage panel.
6. Define the attribute specifications by entering the relevant information in the Attribute Specification panel. Depending on the attribute datatype and the specification type, the fields in the Attribute Specification panel will vary.
7. Verify the attribute's specification details are set up correctly by selecting Preview Specification.
    a. In the Specification Value field, enter an attribute value that conforms to the specifications that were set up.
    b. Select Test and verify that the Result field displays "Conforming".
    c. In the Specification field, enter an attribute value that does not conform to the specifications that were set up.
    d. Select Test and verify that the Result field displays "Non-conforming".
    e. If you receive the wrong quality results, recheck the attribute specification settings and test again.
8. Optionally, assign an attribute category to the item attribute in the Profile Attribute Categories panel. See
9. Select Save.

After the attribute has been saved, the attribute is displayed in the Profile Attributes panel.

Verify Item Attribute Setup

The Preview Specification window allows you to verify that you have properly set up a profile attribute, its specification type, and the specification details. You can test the setup by entering values for the attribute to see if the result is either conforming or non-conforming.

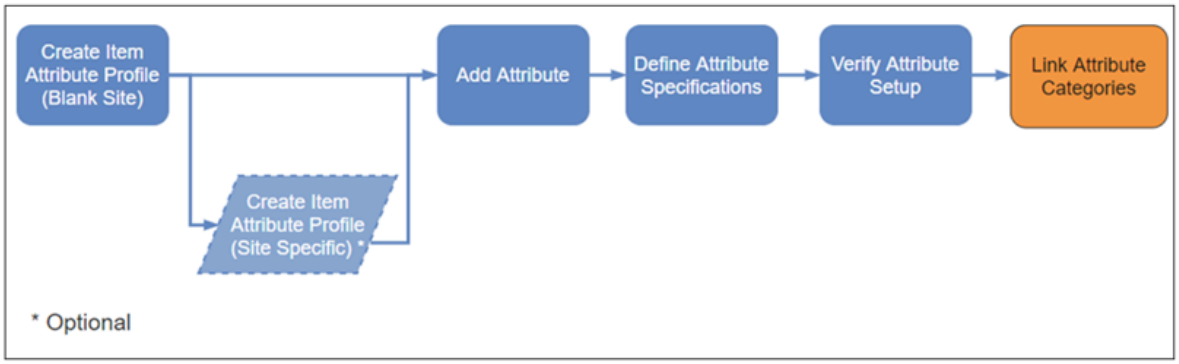
Note The Preview Specification button is not be available for attributes that are Logical datatypes and/or attributes where the Specification Type is set to None.

Follow these steps to check if the attribute specifications have been set up correctly:

1. In the Attribute Specification panel, Select Preview Specification.
2. In the Specification Value field, enter an attribute value that conforms to the specifications that were set up.
3. Select Test and verify that the Result field displays "Conforming."
4. In the Specification field, enter an attribute value that does not conform to the specifications that were set up.
5. Select Test and verify that the Result field displays "Non-conforming."
6. If you receive the wrong quality results, recheck the attribute specification settings and test again.

Linking a Category to an Item Attribute

For certificate of analysis functions, the system uses attribute categories to organize and label groups of item attributes.



You can link categories to an item attribute in the following ways:

- In the Profile Attributes panel on the Item Attribute Profiles form, select the attribute and click Add Child. Then enter the category in the Category field and then select Done.
- In the Profile Attribute Categories panel on the Profile Attributes form, select New and enter the attribute category in the Category field. Then select Done.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Copy Attributes From Item Profile Action

The Copy Attributes from Item Profile action gives users a quick and easy option for adding item attributes to an item attribute profile by copying the attributes from one profile to another profile. When using this action, users can copy all attributes or copy a selected number.

Follow these steps to copy the attributes from an attribute profile to another attribute profile:

1. In **Item Attribute Profiles**, select the item profile that you want to copy the attributes to and then select the Copy Attributes from Item Profile action.
2. In the From Item field, enter the item profile that you want to copy the attributes from.
3. Select Search to display the list of attributes that can be copied from the item profile.

   Note The grid only shows new attributes that are not on the item attribute profile. If there are attributes that already exist on the attribute profile, they will not be displayed in the grid.
4. Specify which attributes are copied by selecting the checkboxes. If the checkbox is not selected, it will not be copied to the item attribute profile.
5. Select Submit to copy the selected attributes to the item attribute profile. Then select OK to confirm.
6. When the new attributes are copied to the item attribute profile, the attributes are added after the last attribute in the target attribute profile and the system automatically generates new sequence numbers for the new attributes.

Main

From Item

Enter the item attribute profile to copy the attributes from.

From Site

Displays the site for the item attribute profile that is selected in the From Item field.

To Item

Displays the item attribute profile that you are copying the attributes to.

To Site

Displays the site for the item attribute profile that is entered in the To Item field.

Reference

Enter any reference information in this field, such as a reference document for the item and its attribute profile.

Attribute Grid

The grid at the bottom of the Main panel displays a list of attributes associated with the item attribute profile selected in the From Item and From Site fields. The grid only shows new attributes that are not on the item attribute profile. If there are attributes that already exist on the attribute profile, they will not be displayed in the grid.

This grid displays the Sequence, Attribute ID, Attribute Description, and Attribute Label.

Copy Attributes from Test Specification Action

The Copy Attributes from Test Specification action gives users a quick and easy option for adding item attributes to an item attribute profile by copying the attributes from a test specification to another profile. When using this action, users can copy all attributes or copy a selected number.

Follow these steps to copy the attributes from an attribute profile to another attribute profile:

1. In **Item Attribute Profiles**, select the item profile that you want to copy the attributes to and then select the Copy Attributes from Item Profile action.
2. In the From Test field, enter the test specification that you want to copy the attributes from.
3. In the From Revision field, enter the revision of the test specification.
4. Select Search to display the list of attributes that can be copied from the test specification.

   Note The grid only shows new attributes that are not on the item attribute profile. If there are attributes that already exist on the attribute profile, they will not be displayed in the grid.
5. Specify which attributes are copied by selecting the checkboxes. If the checkbox is not selected, it will not be copied to the item attribute profile.
6. Select Submit to copy the selected attributes to the item attribute profile. Then select OK to confirm.
7. When the new attributes are copied to the item attribute profile, the attributes are added after the last attribute in the target attribute profile, and the system automatically generates new sequence numbers for the new attributes.

Main

From Test

Enter the test specification to copy the attributes from.

From Revision

Enter the revision level of the test specification that you want to copy the attributes from.

To Item

Displays the item attribute profile that you are copying the attributes to.

To Site

Displays the site for the item attribute profile that is entered in the To Item field.

Attribute Grid

The grid at the bottom of the Main panel displays a list of attributes associated with the test specification selected in the From Test and From Revision fields. The grid only shows new attributes that are not on the item attribute profile. If there are attributes that already exist on the attribute profile, they will not be displayed in the grid.

This grid displays the Sequence, Attribute ID, Attribute Description, and Attribute Label.

Item Profile Delete & Archive

This function allows you to clean the database of item profiles that are old and obsolete.

This function does not include Purchase Order Line Profiles or Sales Order Line Profiles.

You can filter by Product Line, Item, Item Type, Group, and Site. You also have the option of including item customer and item supplier profiles. Use the following table to filter for a specific item profile deviation:

Report Filter	Output
Site: Blank Include Item Customer Profile: No Include Item Supplier Profile: No	Item Profiles Item Site Profiles
Site: Filled Include Item Customer Profile: No Include Item Supplier Profile: No	Item Site Profiles
Site: Blank Include Item Customer Profile: Yes Include Item Supplier Profile: No	Item Profiles Item Site Profiles Item Customer Profiles Item Site Customer Profiles Item Customer Ship To Profiles Item Site Customer Ship To Profiles
Site: Filled Include Item Customer Profile: Yes Include Item Supplier Profile: No	Item Site Profiles Item Site Customer Profiles Item Site Customer Ship To Profiles
Site: Blank Include Item Customer Profile: No Include Item Supplier Profile: Yes	Item Profiles Item Site Profiles Item Supplier Profiles Item Site Supplier Profiles
Site: Filled Include Item Customer Profile: No Include Item Supplier Profile: Yes	Item Site Profiles Item Site Supplier Profiles
Site: Blank Include Item Customer Profile: Yes Include Item Supplier Profile: Yes	Item Profiles Item Site Profiles Item Customer Profiles Item Site Customer Profiles

Report Filter	Output
	Item Customer Ship To Profiles Item Site Customer Ship To Profiles Item Supplier Profiles Item Site Supplier Profiles
Site: Filled Include Item Customer Profile: Yes Include Item Supplier Profile: Yes	Item Site Profiles Item Site Supplier Profiles Item Site Customer Profiles Item Site Customer Ship To Profiles

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows you to see the item profiles that fall within the specified filter criteria before deleting and archiving the profiles.

To delete item profiles only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the item profiles based on the filter criteria specified.

To archive item profiles only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the item profiles. The name of the file is displayed on the report.

To archive and delete item profiles, set both the Archive and Delete options to Yes. Select Run; the system creates an archive file listing the deleted item profiles and then deletes the profiles. The name of the file is displayed on the report.

Item Customer Profile Delete & Archive

This function allows users to clean the database of item customer profiles that are old and obsolete.

This function does not include Purchase Order Line Profiles or Sales Order Line Profiles.

Users can filter by Product Line, Item, Item Type, Group, Site, and Customer.

Report Filter	Output
Site: Blank	Item Customer Profiles Item Customer Ship To Profiles Item Site Customer Profiles Item Site Customer Ship To Profiles
Site: Filled	Item-Site Customer Profiles Item Site Customer Ship-To Profile

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows users to see the item customer profiles that fall within the specified filter criteria before deleting and archiving the profiles.

To delete item customer profiles only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the item customer profiles based on the filter criteria specified.

To archive item customer profiles only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the item customer profiles. The name of the file is displayed on the report.

To archive and delete item customer profiles, set both the Archive and Delete options to Yes. Select Run and the system creates an archive file listing the deleted item customer profiles and then deletes the profiles. The name of the file is displayed on the report.

Item Supplier Profile Delete & Archive

This function does not include Purchase Order Line Profiles or Sales Order Line Profiles.

Users can filter by Product Line, Item, Item Type, Group, and Site.

Report Filter	Output
Site: Blank	Item Supplier Profiles Item Site Supplier Profiles
Site: Filled	Item Site Supplier Profiles

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows users to see the item supplier profiles that fall within the specified filter criteria before deleting and archiving the profiles.

To delete item supplier profiles only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the item supplier profiles based on the filter criteria specified.

To archive item supplier profiles only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the item supplier profiles. The name of the file is displayed on the report.

To archive and delete item supplier profiles, set both the Archive and Delete options to Yes. Select Run and the system creates an archive file listing the deleted item supplier profiles and then deletes the profiles. The name of the file is displayed on the report.

Item Attribute Definition

Item attributes are specific characteristics that can be applied to items. Attributes serve as the basic building blocks necessary to support item attributes, lot attributes, quality control specifications, and quality control results. Attributes, which are used for items and quality control, can be applied across all domains.

An item attribute consists of an identifier, description, label identifier, and additional data for a characteristic that can be applied to an item. Each attribute has a unique identifier and an optional label identifier that supports the capability for an attribute to have labels that are appropriate for a user's language. Like labels, once item attributes are defined in one domain, they are shared and available across all domains.

Note Use **Item Attribute Definition** to create and manage item attributes used in Item Attributes and Quality Control (IAQ). **Attribute Definitions** can also be used to create item attributes, but it is recommended that you use **Item Attribute Definition** instead.

Dynamic Formatting When Entering Attribute Values

When you enter attribute values for the Integer, Decimal, and Character data types, the fields dynamically update based on the attribute format defined in **Item Attribute Definition**. The dynamic formatting feature is visible when entering attribute values in **Item Attribute Profile Specifications**, **Quality Orders**, or **Test Specifications**, **Production Orders**, or during a Receive Unplanned action.

For example, you create an item attribute in **Item Attribute Definition** where the data type is Decimal and the Format is set to five decimal places (>9.99999). When you enter the attribute values, such as in a quality order, you can enter the attribute value with five decimal places or with fewer than five decimal places. If you enter a value that is only three decimal places, the system dynamically adds the extra zeros at the end to match the required value. In this use case, you cannot enter a value with more than five decimal places because you cannot enter more decimals than the number of decimals defined in **Item Attribute Definition**.

Main

Attribute

The unique ID that identifies the attribute. Leave this field blank to allow the system to automatically generate an ID in this field. Otherwise, enter a unique alphanumeric ID of up to 32 characters for the attribute.

For information about setting up the automatic assignment of attribute ID numbers, see **Inventory Control** > Item Attributes panel.

Description

Enter a short description to identify the attribute. When entering a description, the best practice is to indicate the name of the attribute and information about its datatype and format.

This information is particularly useful when multiple attributes share the same label, but have different combinations of datatype and format. For example, if there are two attributes for capacity with integer and decimal datatypes, you can enter Capacity Int and Capacity Dec for the descriptions.

Data Type

Use the lookup and select the datatype (character, decimal, integer, date, or logical) associated with the attribute. If you select the date or logical datatype, the system automatically enters the datatype format in the Format field.

Once an attribute is referenced by an attribute profile or test specification, you cannot modify the value for Datatype.

Format

Define the format for the datatype that was selected using standard programming and database conventions.

Note If this item attribute is referenced by an attribute profile, you can modify the format for an item attribute. However, existing transaction history records are not updated. The system applies the updated format definition to records created after the change.

- **Character.** For a character datatype, enter the value in the form x(n), where n is the maximum number of characters that can be entered in this field. The value for n cannot be greater than 50.
- **Decimal.** For a decimal datatype, the following table contains examples of formats that can be entered depending on the desired value range. The maximum number of digits/spaces that can be entered for the Decimal datatype is nine digits/spaces, including the percentage sign if used.

Format	Example of the value range that can be entered
>.99	0.00 - 9.99
>,>>9.99999	0.00 - 9,999.99999
>>.99999%	0.00 - 99.99999%

- **Integer.** For an integer datatype, the following table contains examples of formats that can be entered depending on the desired value range. The maximum number of digits/spaces that can be entered for the Integer datatype is nine digits/spaces.

Format	Example of the value range that can be entered
>,>>9	0 - 9,999
>>>,>>>,>>9	0 - 999,999,999

- **Date.** For a date datatype, the format is system-defined based on the user's locale; for example, MM/DD/YY.
- **Logical.** For a logical datatype, the format is system-defined as Yes/No.

Label Term

Select a valid label term defined in Label Master. The system uses this term and the defined attribute to determine the label that displays on the user interface. For more information about creating labels, see *QAD System Administration User Guide*.

If the value for Label Term is left blank or if a label master record does not exist for the label term, most attribute functions display the attribute description in place of a label.

Create Item Attributes

Follow these steps to create an item attribute:

Note Use **Item Attribute Definition** to create and manage item attributes used in Item Attributes and Quality Control (IAQ). **Attribute Definitions** can also be used to create item attributes, but it is recommended that you use **Item Attribute Definition**instead.

1. In **Item Attribute Definition**, select New.
2. In the Attribute field, leave this field blank to allow the system to automatically generate an ID or enter a unique identifier.
3. In the Description field, enter a short description of the item attribute.
4. In the Data Type, enter the datatype (character, decimal, integer, date, or logical) to associate with the item attribute.
5. In the Format field, define the format for the datatype.
6. In the Label Term field, enter the valid label term to associate with the item attribute. This term, which is set up in Label Master, determines the label that displays on the user interface.
7. Select Save.

Item Attribute Categories

For certificate of analysis functions, the system uses attribute categories to organize and label groups of attributes.

You can identify ways that attributes are classified for items, then create attribute categories for each classification. In some cases, an attribute can belong to multiple attribute categories. For example, you can create attribute categories for:

- Classes and sub-classes of attributes that need to be verified or measured when items are received or produced
- Item attributes that have values that you need to maintain, store, and report for inventory quantities and/or item lots
- Item attributes that have specifications that you need to communicate to suppliers or customers
- Item attributes that have specifications and typical or actual values that you need to communicate to suppliers or customers

Main

Category

Enter a unique identifier for the attribute category.

Attributes can be classified in different ways and optionally have one or more attribute categories to classify them.

Description

Enter a short description of the attribute category.

Label Term

Select a valid label term defined in Label Master. The system uses this term and the defined attribute to determine the label that displays on the user interface.

If the value for Label Term is left blank or if a label master record does not exist for the label term, the attribute functions display the attribute description in place of a label.

Create an Item Attribute Category

Follow these steps to create an item attribute category:

1. In **Item Attribute Categories**, select New.
2. In the Category field, enter the unique identifier for the item attribute category.
3. In the Description field, enter a description of the item attribute category.

4. In the Label Term field, select the valid label term to associate with the item attribute category. The label term, which is defined in Label Master determines the label that displays on the user interface.
5. Select Save.

Item Attribute Usage

This browse provides a way for users to see where an item attribute is used:

- On different item attribute profiles (Item, Item Site, Supplier, Supplier Site, Customer, Customer Site, Customer Ship-To, Customer Ship-To Site)
- On different test specifications

When filtering for an attribute, the Source field displays where the item attribute is used. For example, if the Source field displays "Item," that indicates the attribute is used on an item attribute profile. The Item field then displays which item attribute profile the attribute is used on. If the Source field displays "Test," that indicates the attribute is used on a test specification. If the Source field displays "Supplier," that indicates that attribute is used on an Item Supplier Profile. The Item and Supplier fields then display the associated information.

Item Supplier Profiles

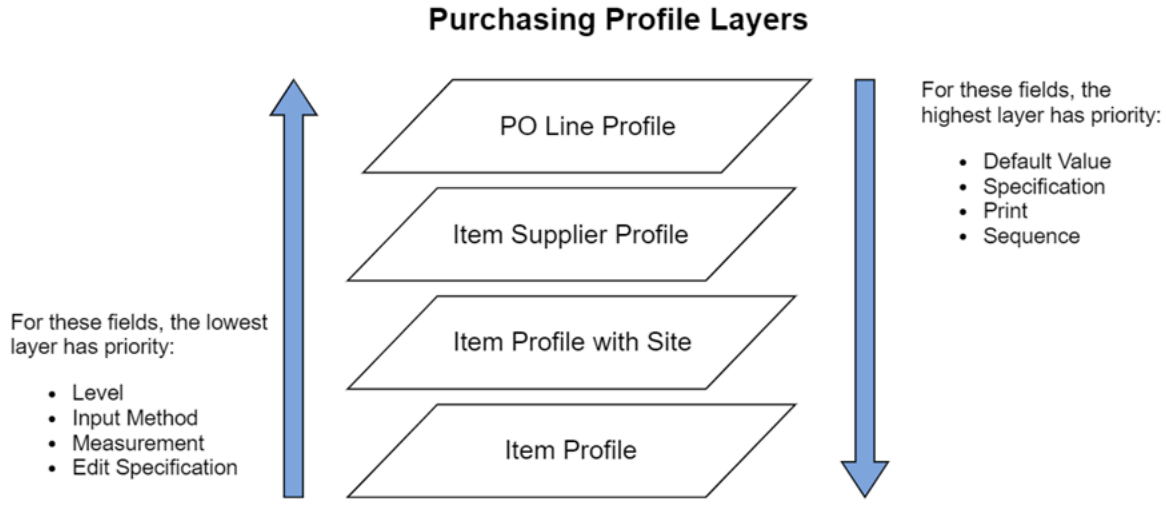
You can create the following item profiles that are specific to purchasing:

- **Item Supplier Profile.** Applies to a specific item, supplier, and site combination. Can be created using **Item Supplier Profiles**.
- **PO Line Profile.** Applies to a specific purchase order and scheduled order line. Can only be created using Purchase Order Line Profiles.

When there are multiple item supplier and PO line profiles, some profiles override other profiles. For example:

- What if there are multiple profiles for an item, item and supplier, as well as PO line?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another. The following graphic outlines the attribute layer priority for purchasing profiles.



The sub-layers determine how different entries within a layer override one another. The sub-layers do not, however, allow a layer to override a higher layer.

- PO Line Profile
- Item and Supplier Profile
  - Item, Supplier, and Site
  - Item and Supplier
- Item Profile

- Item and Site
- Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When using Item Supplier Profiles to create profiles for an Item/Supplier or an Item/Site/Supplier:

- If an Item Profile already exists for the item, when a new Item Supplier Profile is created, all of the attributes from the Item Profile are displayed in the Profile Attributes grid with a Source of "Item."
- If an Item Site Profile already exists for the item, when a new Item Supplier Profile is created, all of the attributes from the Item Site Profile are displayed in the Profile Attributes grid, with a Source of "ItemSite."
- If an Item Supplier or Item-Site Supplier Profile is created for an item that does not have an existing Item or Item Site Profile, the new Item Supplier Profile is created, and no attributes are in the Profile Attributes grid.
- When a new attribute is added to an Item Supplier Profile, the new attribute is displayed in the Profile Attributes grid, with a Source of "Supplier."
- When a new attribute is added to an Item Site Supplier Profile, the new attribute is displayed in the Profile Attributes grid, with a Source of "SuppSite."

Main

Item

Enter or select the receiving item number for the item supplier profile.

Description 1

Displays the primary item description.

Description 2

The second line of the item description, which provides additional or supplementary information.

Site

Optionally, enter or select the receiving site to associate with the item supplier profile. Leave the Site field blank if you do not want to restrict the profile to a particular site.

Supplier

Enter or select the supplier to associate with the item supplier profile.

Reference

Optionally, enter any reference information in this field, such as a reference document for the item and its attribute profile.

Profile Attributes

The Profile Attributes panel displays a list of attributes that have been added to the item supplier profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes window, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes window to select the attribute that will be added to the attribute profile and to specify the attribute parameters.

For field definitions, see Item Attribute Profiles on page 2749.

Item Customer Profiles

You can create the following item profiles that are specific to sales:

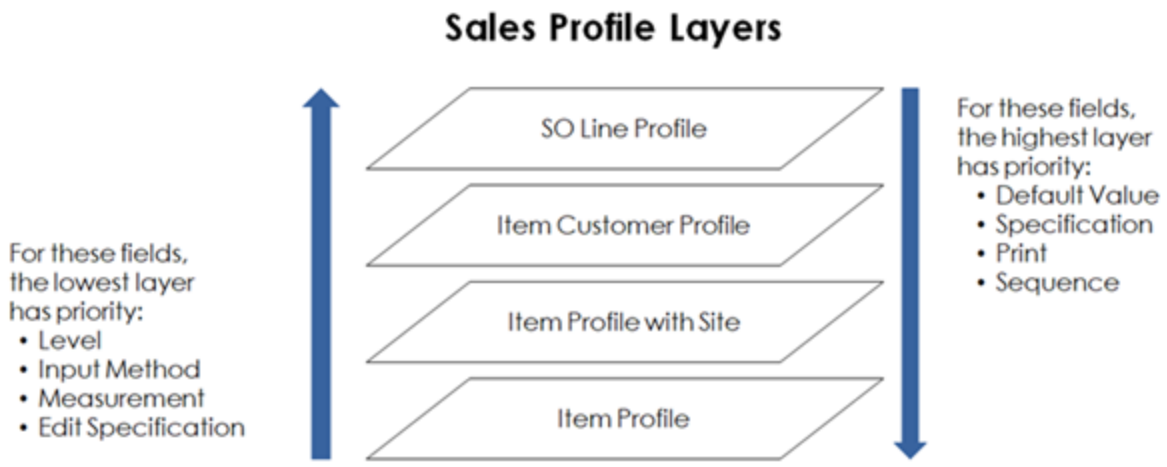
- **Item Customer Profiles.** Applies to a specific item, customer, ship-to, and site combination. Can be created using **Item Customer Profiles**.
- **Sales Order Line Profiles.** Applies to a specific sales order or scheduled order line. Can be created using **Sales Order Line Profiles**.

When there are multiple item customer and sales order line profiles, some profiles will override other profiles. For example:

- What if there are multiple profiles for an item, item and customer, item, ship-to, and customer, as well as SO line?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another.

The following graphic outlines the attribute layer priority for sales profiles:



The sub-layers determine how different entries within a layer override one another. The sub-layers will not, however, allow a layer to override a higher layer.

- Sales Order Line Profile
- Item Customer Profile
  - Item, Customer, and Site
  - Item and Customer

- Item Profile
  - Item and Site
  - Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When using **Item Customer Profiles** to create profiles for a specific item, customer, ship-to, and site combination:

- If the item already has an item profile set up for it, when a new item customer profile is created, all of the attributes from the item profile will be visible in the hierarchical grid, with a Source of “Item.”
- If the item already has an item-site profile set up for it, when a new item customer profile is created, all of the attributes from the item-site profile will be visible in the hierarchical grid, with a Source of “ItemSite.”
- If an item customer profile is created for an item that does not have an item or item-site profile, the new item customer profile will be created, and no attributes will be in the hierarchical grid.
- When a new attribute is added to an item customer profile, the new attribute will be visible in the hierarchical grid, with a Source of “Customer.”
- When a new attribute is added to an item-site customer profile, the new attribute will be visible in the hierarchical grid, with a Source of “CustSite.”
- When a new attribute is added to an item-site-ship-to customer profile, the new attribute will be visible in the hierarchical grid, with a Source of “CustShpSt.”
- An item customer profile can be deleted even if history exists.

Main

Item

Enter or select the item number for the item customer profile.

Description 1

Displays the primary item description.

Description 2

The second line of the item description, which provides additional or supplementary information.

Site

Enter or select the site associated with the item customer profile.

When the Site field is blank, the attributes defined for the item apply to the item, across all sites for the domain. You should only specify a site when defining a deviation for an attribute specification for a specific site.

Customer

Enter or select the displays the sold-to customer associated with the profile.

Ship To

Enter or select the displays the customer ship-to address that identifies where the items on the order should be delivered.

Customer Item

Displays the customer item number, if there is a customer item defined for the item in **Customer Items**.

Reference

Optionally, enter any reference information in this field, such as a reference document for the item and its attribute profile.

Profile Attributes

The Profile Attributes panel displays a list of attributes that have been added to the item profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes window, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes window to select the attribute that will be added to the attribute profile and to specify the attribute parameters.

For field definitions, see Item Attribute Profiles on page 2749.

Sales Order Line Profiles

You can create the following item profiles that are specific to sales:

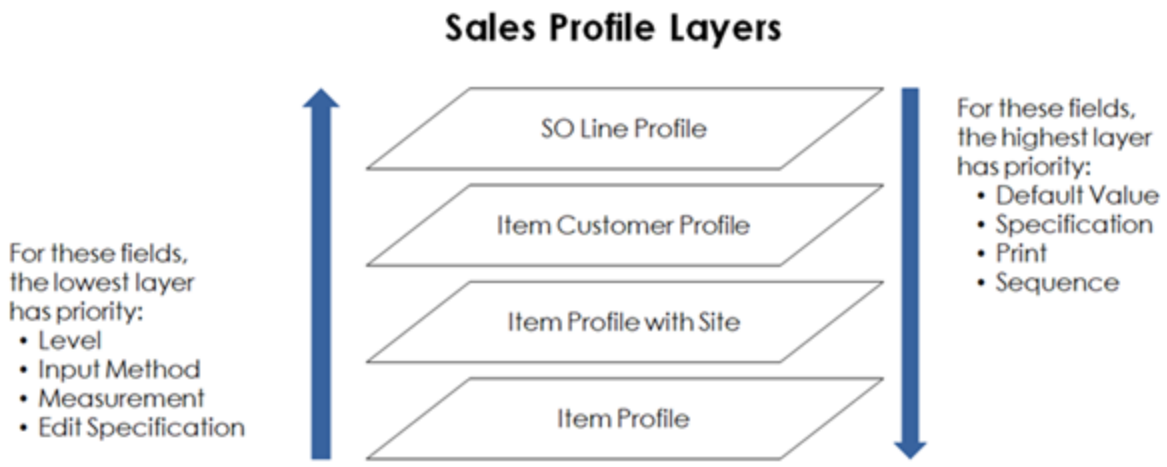
- **Item Customer Profiles.** Applies to a specific item, customer, ship-to, and site combination. Can be created using **Item Customer Profiles**.
- **Sales Order Line Profiles.** Applies to a specific sales order or scheduled order line. Can be created using **Sales Order Line Profiles**.

When there are multiple item customer and sales order line profiles, some profiles will override other profiles. For example:

- What if there are multiple profiles for an item, item and customer, item, ship-to, and customer, as well as a sales order line?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another.

The following graphic outlines the attribute layer priority for sales profiles:



The sub-layers determine how different entries within a layer override one another. The sub-layers will not, however, allow a layer to override a higher layer.

- Sales Order Line Profile
- Item Customer Profile
  - Item, Customer, and Site
  - Item and Customer

- Item Profile
  - Item and Site
  - Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When using **Sales Order Line Profiles** to create profiles for a specific sales order line:

- Based on the sales order line entered, the Customer, Ship-To, Site, Item, and Customer Item fields would be populated in the Main panel.
- If the item already has an item profile set up for it, when a new sales order line profile is created, all of the attributes from the item profile will be visible in the hierarchical grid, with a Source of “Item.”
- If the item already has an item-site profile set up for it, when a new sales order line profile is created, all of the attributes from the item-site profile will be visible in the hierarchical grid, with a Source of “ItemSite.”
- If a sales order line profile is created for an item that does not have an item or item-site profile, the new sales order line profile will be created, and no attributes will be in the hierarchical grid.
- When a new attribute is added to a sales order line profile, the new attribute will be visible in the hierarchical grid, with a Source of “SO.”
- A sales order line profile can be deleted even if history exists.

Main

Sales Order

Enter or select the sales order for the sales order line profile.

Line

Enter or select the sales order line to associate with the sales order line profile.

Item

Displays the item on the sales order line.

Reference

Optionally, enter any reference information in this field, such as a reference document for the item and its attribute profile.

Customer

Displays the sold-to customer associated with the profile.

Ship To

Displays the customer ship-to address that identifies where the items on the order should be delivered.

Site

Displays the site associated with the sales and quality order.

Customer Item

Displays the customer item number, if there is a customer item defined for the item in **Customer Items**.

Profile Attributes

The Profile Attributes panel displays a list of attributes that have been added to the item profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes window, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes window to select the attribute that will be added to the attribute profile and to specify the attribute parameters.

For field definitions, see Item Attribute Profiles on page 2749.

Purchase Order Line Profiles

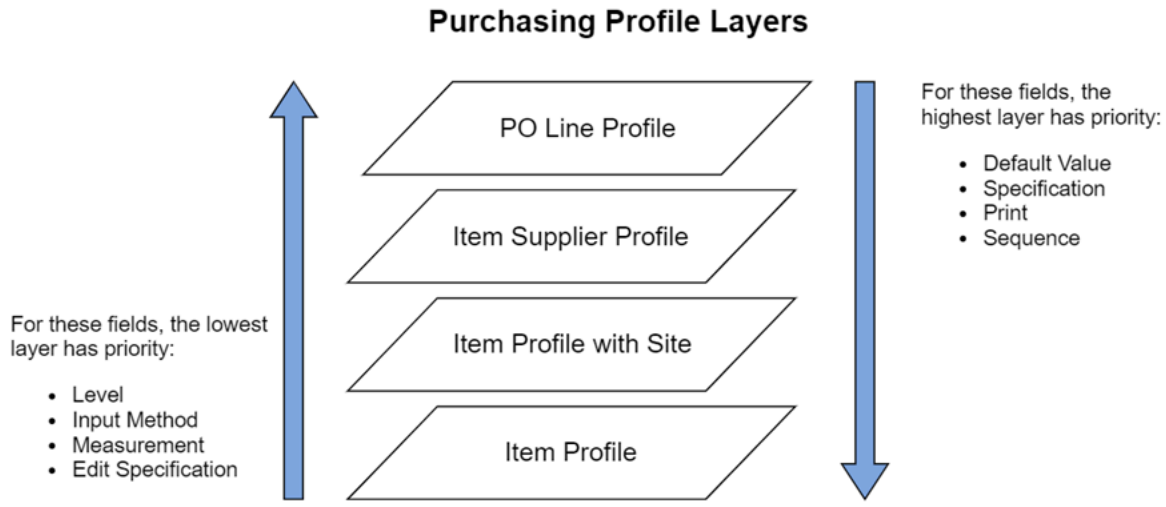
You can create the following item profiles that are specific to purchasing:

- **Item Supplier Profile.** Applies to a specific item, supplier, and site combination. Can be created using **Item Supplier Profiles**.
- **Purchase Order Line Profiles.** Applies to a specific purchase order and scheduled order line. Can be created using **Purchase Order Line Profiles**.

When there are multiple item supplier and purchase order line profiles, some profiles override other profiles. For example:

- What if there are multiple profiles for an item, item and supplier, as well as PO line?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another. The following graphic outlines the attribute layer priority for purchasing profiles.



The sub-layers determine how different entries within a layer override one another. The sub-layers do not, however, allow a layer to override a higher layer.

- Purchase Order Line Profile
- Item Supplier Profile
  - Item, Supplier, and Site
  - Item and Supplier

- Item Profile
  - Item and Site
  - Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When using **Purchase Order Line Profiles** to create profiles for a specific purchase order line:

- Based on the purchase order line entered, the Item, Supplier, Ship to, Site and Supplier Item fields will be populated in the Main panel.
- If the item already has an item profile set up for it, when a new purchase order line profile is created, all of the attributes from the item profile will be visible in the hierarchical grid, with a Source of “Item.”
- If the item already has an item-site profile set up for it, and the site from the item profile is the same site in the purchase order, when a new purchase order line profile is created, all of the attributes from the item-site profile will be visible in the hierarchical grid, with a Source of “ItemSite.”
- If a purchase order line profile is created for an item that does not have an item or item-site profile, the new purchase order line profile will be created, and no attributes will be in the hierarchical grid.
- When a new attribute is added to a purchase order line profile, the new attribute will be visible in the hierarchical grid, with a Source of “PO.”
- A purchase order line profile can be deleted even if history exists.

Main

Purchase Order

Enter or select the purchase order for the purchase order line profile.

Line

Enter or select the purchase order line to associate with the purchase order line profile.

Item

Enter or select the receiving item number for the purchase order line profile.

Reference

Optionally, enter any reference information in this field, such as a reference document for the item and its attribute profile.

Supplier

Enter or select the supplier to associate with the purchase order line profile.

Ship To

Displays the ship-to address that identifies where the items on the order should be delivered.

Site

Optionally, enter or select the receiving site to associate with the purchase order line profile. Leave the Site field blank if you do not want to restrict the profile to a particular site.

Supplier Item

Displays the supplier item number, if there is a supplier item defined for the item in **Supplier Items**.

Profile Attributes

The Profile Attributes panel displays a list of attributes that have been added to the item profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes window, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes window to select the attribute that will be added to the attribute profile and to specify the attribute parameters.

For field definitions, see Item Attribute Profiles on page 2749.

BOM Component Profiles

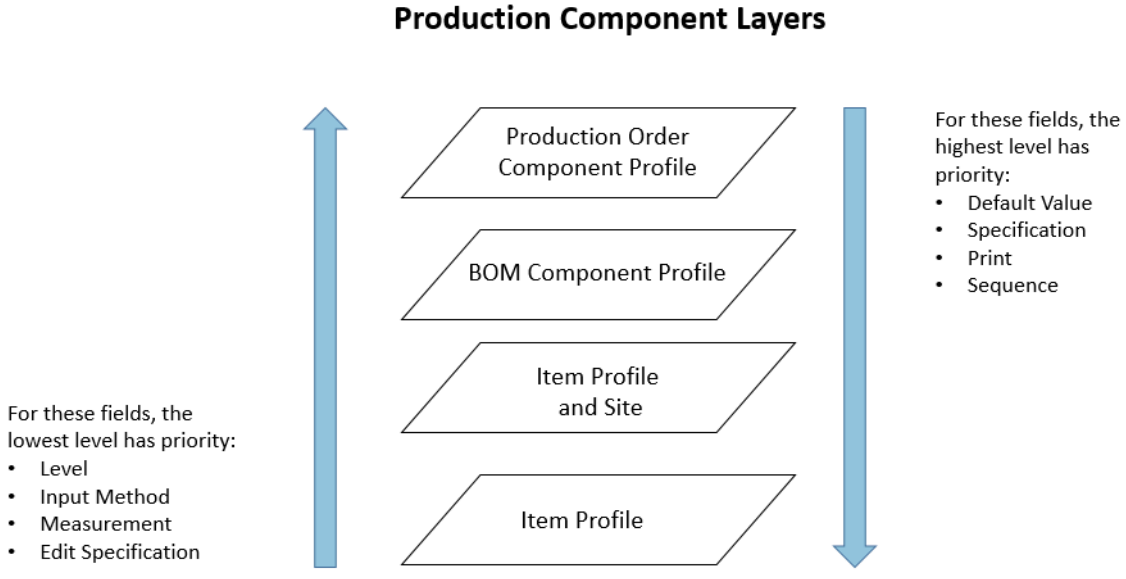
You can create the following item profiles that are specific to production:

- **Production Order Profile:** Applies to a specific item and production order combination in production. Can be created using **Production Order Profiles**. See Production Order Profiles on page 2794.
- **Production Order Component Profile:**Applies to a specific production order component in production. Can be created using **Production Order Component Profiles**. SeeProduction Order Component Profiles on page 2791.
- **BOM Component Profile:** Applies to a specific product structure and component or a formula and ingredient for production. Can be created using **BOM Component Profiles**.

When there are multiple production order or BOM component profiles, some profiles will override other profiles. For example:

- What if there are multiple profiles for an item, WO component, and BOM component?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another. The following graphic outlines the attribute layer priority for production profiles.



The sub-layers determine how different entries within a layer override one another. The sub-layers do not, however, allow a layer to override a higher layer. The Production Order Component Profile layer has the highest priority. The next highest is the BOM Component Profile layer. The lowest priority layer for production components contains the Item Profile sub-layers.

- Production Order Component Profile
- BOM Component Profile
- Item Profile
  - Item and Site
  - Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When you click New or Edit from the **BOM Component Profiles** browse, a form displays with the following panels:

- Summary: Displays read-only data for the Parent Item, ID, Component Item, Operation, and Profile Reference.
- Main: Lets you identify the parent item, component item, and reference profile, and populates additional read-only data.
- Profile Attributes: Contains a hierarchical grid. The first level of the grid contains profile attributes. The second level of the grid contains profile attribute categories.

When you create or edit profiles for a BOM order component, note the following:

- In the Main panel, based on the parent item entered, the Component Items for the parent item are available to select by clicking the Select Component Item button. When you do, the system displays a Component Item screen that lists parent and component items. Select the component item, then click OK. Your selection displays in the Component Item option.
- If the component has a Start Effective and/or End Effective Date for the item BOM, those dates will default.
- When you create a new BOM component profile, if the component item has an item profile set up for it, all attributes from the item profile display in the grid in the Profile Attributes panel with Source set to Item.

- When a new attribute is added to a BOM component profile, the new attribute is visible in the Profile Attributes grid with the Source field in the grid set to BOM

Main

Parent Item

Select or lookup the parent item. This is mandatory

Component Item

Click the Select Component Item button to open a browse of all of the components for the parent item. Select the component item, then click OK. This is mandatory. The Component Item will be populated in the form.

Reference

If the component item that is selected contains a reference in the Product Structure/BOM, the reference will be populated in the form.

Operation

This read-only field displays the operation from the BOM.

Start Effective

If the component item that is selected contains a Start Date in the Product Structure/BOM, the Start Date will be populated in the form.

End Effective

If the component item that is selected contains an End Date in the Product Structure/BOM, the End Date will be populated in the form.

Profile Reference

Optionally, enter reference information.

Profile Attributes

The Profile Attributes panel displays a hierarchical list of attributes that have been added to the item profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes Detail screen, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes Detail screen to select the attribute that will be added to the attribute profile and to specify the attribute specifications.

In the grid, attributes with a Source of Item or Item Site are visible, but are not actually saved in the BOM component profile:

- When you modify an attribute with Source of Item or Item Site, the system copies the attribute to the BOM component profile with the Source set to BOM.

- The original profile attribute that you modified no longer displays in the grid.

For field definitions, see Item Attribute Profiles on page 2749.

Production Order Component Profiles

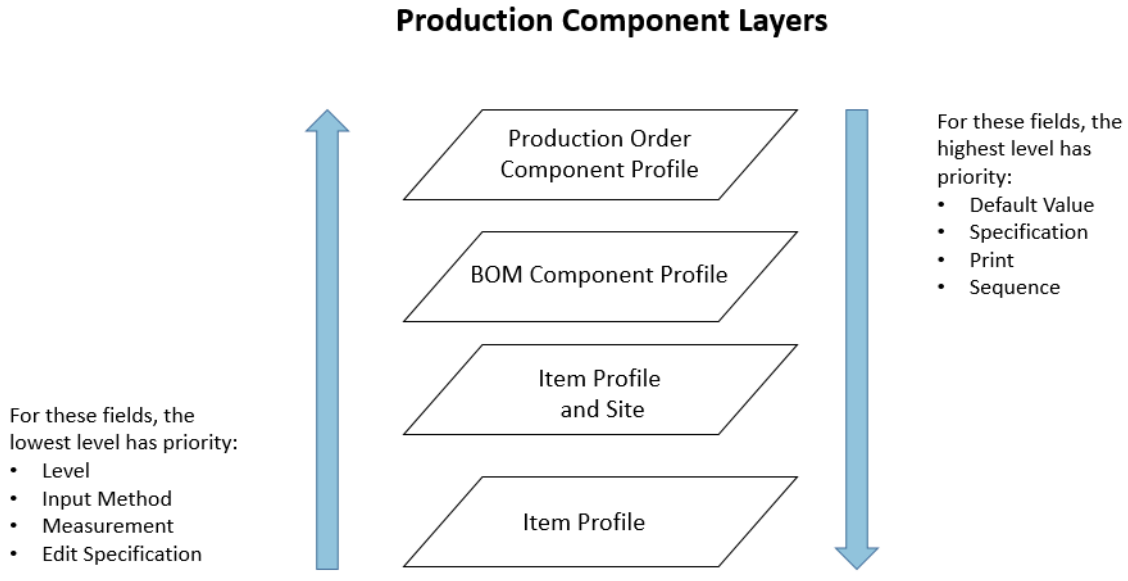
You can create the following item profiles that are specific to production:

- **Production Order Profile:** Applies to a specific item and production order combination in production. Can be created using **Production Order Profiles**. See Production Order Profiles on page 2794.
- **Production Order Component Profile:** Applies to a specific production order component in production. Can be created using **Production Order Component Profiles**.
- **BOM Component Profile:** Applies to a specific product structure and component or a formula and ingredient for production. Can be created using **BOM Component Profiles**. See BOM Component Profiles on page 2787.

When there are multiple production order or BOM component profiles, some profiles will override other profiles. For example:

- What if there are multiple profiles for an item, production order component, and BOM component?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another. The following graphic outlines the attribute layer priority for production profiles.



The sub-layers determine how different entries within a layer override one another. The sub-layers do not, however, allow a layer to override a higher layer. The Production Order Component Profile layer has the highest priority. The next highest is the BOM Component Profile layer. The lowest priority layer for production components contains the Item Profile sub-layers.

- Production Order Component Profile
- BOM Component Profile
- Item Profile
  - Item and Site
  - Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When you click New or Edit from the **Production Order Component Profiles** browse, a form displays with the following panels:

- Summary: Displays read-only data for the Production Order, ID, Component Item, Operation, and Reference.
- Main: Lets you identify the production order and component and populates additional editable and read-only data.
- Profile Attributes: Contains a hierarchical grid. The first level of the grid contains profile attributes. The second level of the grid contains profile attribute categories.

When you create or edit profiles for a specific production order component, note the following:

- In the Main panel, when you enter a production order, the ID is populated; when you enter an ID, the production order is populated. You select the Component item, Operation, and optionally, a Reference. When editing an existing production order component profile, you can only modify the Reference.
- When you create a new production order component profile, if the component item has either an existing item profile or a BOM component profile set up for it, all attributes from the item profile and BOM component profile display in the grid in the Profile Attributes panel with the Source field in the grid set to Item, Item Site, or BOM.
- When a new attribute is added to a production order component profile, the new attribute is visible in the Profile Attributes grid with the Source field in the grid set to WO Bill.

Main

Production Order

Enter or select the production order for the production order component profile. This is a mandatory field.

ID

Enter or select the production order ID for the production order component profile.

Component Item

Enter or select the component item for the profile. This is a mandatory field.

Operation

Enter the operation associated with the production order component profiled. The default is the operation linked to the component item.

Reference

Optionally, enter any reference information.

Site

Displays the site from the production order.

Type

Displays the type from the production order.

Status

Displays the status of the production order.

Profile Attributes

The Profile Attributes panel displays a hierarchical list of attributes that have been added to the item profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes detail screen, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes detail screen to select the attribute that will be added to the attribute profile and to specify the attribute specifications.

In the grid, attributes with a Source of Item or BOM are visible, but are not actually saved in the production order component profile:

- When you modify an attribute with a Source of Item or BOM, the system copies the attribute to the production order component profile with the Source set to WO Bill.
- The original profile attribute that you modified no longer displays in the grid.

For field definitions, see Item Attribute Profiles on page 2749.

Production Order Profiles

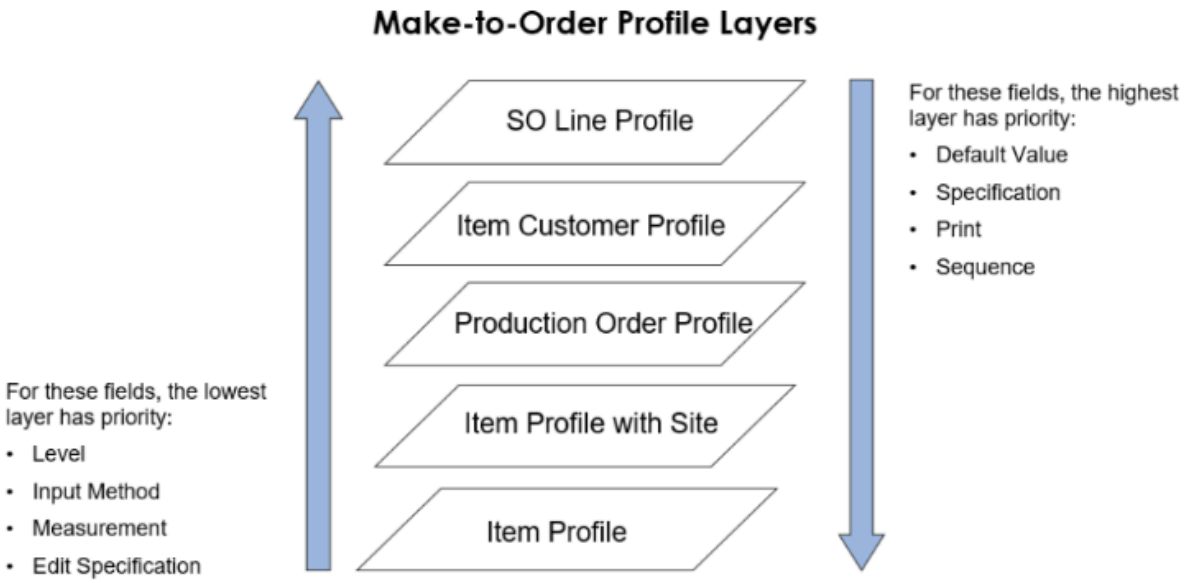
You can create the following item profiles that are specific to production:

- **Production Order Profile:** Applies to a specific item and production order combination in production. Can be created using **Production Order Profiles**.
- **Production Order Component Profile:** Applies to a specific production order component in production. Can be created using **Production Order Component Profiles**. See Production Order Component Profiles on page 2791
- **BOM Component Profile:** Applies to a specific product structure and component or a formula and ingredient for production. Can be created using **BOM Component Profiles**. See BOM Component Profiles on page 2787.

When there are multiple production order or BOM component profiles, some profiles will override other profiles. For example:

- What if there are multiple profiles for an item, item and customer, or production order?
- What if the same attribute appears with different default values at different levels?
- What if the same attribute appears with different specifications at different levels?

Each profile uses a different set of layers and priorities, which control how profile attributes override one another. The following graphic outlines the attribute layer priority for make-to-order profiles.



The sub-layers determine how different entries within a layer override one another. The sub-layers do not, however, allow a layer to override a higher layer. A make-to-order line incorporates both an SO line and a production order. As such, it combines priority layers for both concepts.

The SO line profile and item customer profile have higher priority than the Production Order profile, as do their sub-layers. Item profile, as always, is the most general concept and has the lowest priority.

- SO Line Profile
- Item Customer Profile
  - Item, Customer, Ship-To, Site
  - Item, Customer, Ship To
  - Item, Customer, Site
  - Item, Customer
- Production Order Profile
- Item Profile
  - Item and Site
  - Item

Field priority functions in both directions, depending on the field. In the case of Default Value, Specification, Print, and Sequence, the highest layer has priority. The field value of the highest layer cascades down.

For the Level, Input Method, UM, and Edit Specification fields, the lowest layer has priority. The field value of the lowest layer cascades up.

When you click New or Edit from the **Production Order Profiles** browse, a form displays with the following panels:

- Summary: Displays read-only data for the Production Order, ID, Item, Status, and Reference.
- Main: Lets you identify the production order, SO and SO line, and Reference.
- Profile Attributes: Contains a hierarchical grid. The first level of the grid contains profile attributes. The second level of the grid contains profile attribute categories.

When you create or edit profiles for a specific production order, note the following:

- You can create a production order profile for a specific production order/sales order combination. Production order profiles can be created for both discrete and Cum production orders.
- When you edit an existing profile, you can only modify the Sales Order, Sales Order Line, and Reference.
- Based on the production order entered, the system populates the Item, Site Status, and Order Type from the production order in the Main Panel.
- If the item already has an item profile set up for it, when you create a new production order profile, all attributes from the item profile display in the grid in the Item Profiles panel with the Source set to Item.
- If the item already has an item-site profile set up for it, when you create a new production order profile, all attributes from the item-site profile display in the grid in the Profile Attributes panel with the Source set to ItemSite.
- If an item already has an item customer profile set up for it, when you create a new production order profile, all attributes from the item customer profile display in the grid in the Profile Attributes panel with Source set to Item, ItemSite, Customer, CustSite, or CstShpSt.
- If an item has a sales order line profile set up for it, when you create a new production order profile, all attributes from the sales order line profile display in the grid in the Profile Attributes panel with Source set to SO.
- When you add a new attribute to a production order profile, the new attribute displays in the Profile Attributes grid with the Source set to WO.

Main

Production Order

Enter or select the production order for the production order profile. When you enter a Production Order ID, the Production Order defaults here.

ID

Enter or select the production order ID for the production order profile. When you enter a Production Order value, the ID defaults here. This is a mandatory field.

Sales Order

Enter or select the sales order associated with the production order for the profile.

Sales Order Line

Enter the Sales Order Line associated with the production order profile.

Reference

Optionally, enter any reference information.

Item

Displays the item from the production order.

Site

Displays the site from the production order.

Status

Displays the status of the production order.

Order Type

Displays the order type from the production order.

Profile Attributes

The Profile Attributes panel displays a hierarchical list of attributes that have been added to the item profile.

The fields that are shown in the grid can also be viewed in the Profile Attributes detail screen, which can be accessed by selecting Details or by selecting New when adding a new attribute to the profile. Use the Profile Attributes detail screen to select the attribute that will be added to the attribute profile and to specify the attribute specifications.

Note the following:

- You cannot modify attributes from a higher-level profile (Sales Order Line Profile or Item Customer Profile).
- You can modify attributes from a lower-level profile (Item or Item Site).

- When you modify an attribute with a Source of Item or Item Site, the system copies the attribute to the production order component profile with the Source set to WO.
- The original profile attribute that you modified no longer displays in the grid.

For field definitions, see Item Attribute Profiles on page 2749.

Zero Balance Delete/Archive

Zero Balance Delete/Archive is needed only if you define permanent locations in the Locations view. In this case, the system tracks items stored in a location even when the balance falls to zero. This is useful for items with fixed or designated stock locations that you want to see on inventory reports even when the quantity on hand is zero. The zero balances remain in the system until you run Zero Balance Delete/Archive. When a location is non-permanent, the system automatically deletes inventory detail records when the location balance falls to zero.

You cannot delete non-zero balances. If inventory detail is not deleted as expected, a fractional quantity may be left in the location. Use the following reports to review inventory quantities:

- Use the Inventory Detail browse to display detail to nine decimal places.
- Use Cycle Count Results to clear small factional quantities.

You should run this function twice. First, run it with Delete set to No and review the report. Then, run it with Delete set to Yes.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Site

Enter a code identifying a site. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Enter the location code that identifies the physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location codes can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in Locations before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Item Number

Enter the code that identifies an inventory item defined in Items.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

Some reports, such as the Inventory Valuation Report, can be selected for ranges of ABC classes.

Reference

Enter a reference number to associate with the specified item quantity. For example, this can be the production lot of the item or a location reference such as a pallet number. Reference numbers are optional.

Delete

Indicate whether to delete the selected records or to generate a report only.

When you set Delete to No, the selected records are not deleted. A report is generated listing the selected records.

When you set Delete to Yes, the inventory detail that satisfies the selection criteria is deleted from the database and listed in a report. If you set Archive to Yes while Delete is also set to Yes, the deleted data are copied to an ASCII file that can be reloaded using Archive File Reload. Otherwise, deleted data cannot be recovered.

Archive

Indicate whether to archive the selected records.

When you set Archive to No, the selected records are not copied to an ASCII file.

When you set Archive to Yes, the selected data is copied to an ASCII file named xxYYMMDD.hst where xx is the module code and YYMMDD is the file creation date. If this file does not exist, it is created. If it does exist because you already ran delete/archive the same day, the system adds the additional archived records to the end of the file.

Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Note Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, use Users to temporarily change your country code to match that of the user who archived the data.

Cycle Count

The Cycle Count browse contains the following actions used to perform and manage the cycle count process:

- Item ABC Status Update
- Cycle Count Worksheet Create
- Initial Count
- Recount
- Cycle Count Results

Performing Cycle Counts

You can count and compare actual, on-hand inventory balances with system-maintained quantities using either of two counting methods:

- Cycle counting (Inventory Control)
- Physical counting (Physical Inventory)

In each method, you count inventory by site, location, item, and lot/serial number. Cycle counting involves counting groups of items on a regular or cyclic schedule. A physical count involves counting all items, usually once a year.

During cycle counting, you enter manual count figures in the system. The system then compares the manual count figures with its figures. If there are discrepancies, the system checks the error tolerances defined in Inventory Control. If a count figure is within tolerance, it is accepted and the system figure is updated. If a count figure is not within tolerance, the item in question must be recounted. The system accepts recount quantities that are out of tolerance.

ABC Class Code

The ABC class code classifies items by their importance in a manufacturing system and determines count frequencies. Class A items are counted more frequently than class B items. Class B items are counted more frequently than class C items.

Use **Items** to assign ABC class. You can also have the system calculate it automatically by running the Item ABC Status Update action. Optionally, that function lets you exclude items based on item status code.

For each ABC class, assign item tolerances (percentage and amount) in the Inventory panel in **Inventory Control**. When count discrepancies arise, the system checks item tolerances by class.

Cycle Counting Procedure

Whether you select items for cycle counting or have the system select them, the basic steps are as follows:

1. Print a cycle count worksheet by using the Cycle Count Worksheet Create action.
2. Count the items listed on the worksheet.
3. Enter the initial count quantity in the system by using the Initial Count action
4. Review the results by using the Cycle Count Results action.
5. If necessary, enter recount quantities by using the Recount action.

Printing the Cycle Count Worksheet

Use the Cycle Count Worksheet Create action to print a worksheet listing items selected for cycle counting, their locations, ABC code, last count date (if applicable), and the quantity on hand. Use the worksheet to record the count quantities.

The system selects items by comparing the current date with the item's last count date. If the elapsed time is greater than the period specified in the Cycle Count Interval field in **Items**, the system selects the item for cycle counting. If this is the first time you are cycle counting an item, the system selects it by item number.

Entering the Initial Count

Enter the count quantity using the Intitial Count action.

If the count quantity for an item does not match the system quantity, the system checks to see if the count is within both the percent tolerance and the amount tolerance specified for the ABC class in the Inventory panel in **Inventory Control**. If it is, the system updates the quantity accordingly. If the count is not within tolerance, the item must be recounted.

Entering a Recount

Use the Recount action to enter recount figures. If a recount quantity is still out of tolerance, the system alerts you to this, but nevertheless updates its figures.

Reporting the Cycle Count Results

After completing the cycle count, use the Cycle Count Results action to generate a count report showing items counted, in-tolerance quantity, in-tolerance percent, and items recounted.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Cycle Count Results Action

To run the cycle count results report, go to the **Cycle Count** browse and select Action > Cycle Count Results.

Last Count

The default is the system date. This is a system-maintained field that records the last date a cycle count or physical inventory count updated a location detail record.

Last count date can be used to select items for cycle counting, either by a range of dates or by past due only.

Item Number

Enter the code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the setting for Automatic Locations at that site. If automatic locations is set to No for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Site

Enter a code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

New Page on Location

Specifies if items from different locations must be printed on separate pages of the report.

If set to No, all locations are printed on the same report. If set to Yes, different locations should are printed on separate pages. The printer advances to the next page before printing items for a different location.

If locations are physically separated, or if different people have responsibility for counting inventory at each location, then set this field to Yes. This allows you to easily distribute parts of the report to different people.

Show Initial

Specifies what information is to appear on this report.

If you set this field to Yes, this report includes the initial count transaction on the report. If you set this field to No, this report does not include the initial count transaction on the report.

Usually, the results report is printed showing initial counts, error counts, and recounts. This gives you a complete view of the count process. In some cases, you may just want to select one or two of the counts. After all initial counts are entered, print a list of the error counts for items that need recounting. Or, after the entire count is done, print a list of initial counts and recounts for use when reconciling the Inventory Discrepancy amount.

Show Recounts

Specifies what information is to appear on this report.

If you set this field to Yes, this report includes the recount transaction on the report. If you set this field to No, this report does not include this type of count transaction on the report.

Usually, the results report is printed showing initial counts, error counts, and recounts. This gives you a complete view of the count process. In some cases, you may just want to select one or two of the counts. After all initial counts are entered, print a list of the error counts for items that need recounting. Or, after the entire count is done, print a list of initial counts and recounts for use when reconciling the Inventory Discrepancy amount.

Show Errors

Specifies what information is to appear on this report.

If you set this field to Yes, this report includes the error count transaction on the report. If you set this field to No, this report does not include this type of count transaction on the report.

Usually, the results report is printed showing initial counts, error counts, and recounts. This gives you a complete view of the count process. In some cases, you may just want to select one or two of the counts. After all initial counts are entered, print a list of the error counts for items which need recounting. Or, after the entire count is done, print a list of initial counts and recounts for use when reconciling the Inventory Discrepancy amount.

Cycle Count Worksheet Create Action

To create a cycle count worksheet, go to the **Cycle Count** browse and select Action > Cycle Count Worksheet Create.

Use the Cycle Count Worksheet Create action produce a worksheet to record the results of physical inventory cycle counts. This worksheet is typically sent to the stockroom on a daily or a weekly basis. Cycle counts are recorded and used for input to Cycle Count Results.

You can print the worksheet in a variety of ways. Refer to the field help for each field to learn how to print the worksheet with the options that meet your physical inventory requirements.

The Date Counted column is reserved for the date of the physical count completed by the stockroom personnel. This worksheet is a turnaround document. Once printed, the stockroom personnel use the sheet to record their cycle counts and then return it to the system operator for input. It is essential that the timing of input for issues and receipts coincides with the Cycle Count Results input.

The system counts serialized items in a pack through Cycle Count Entry by Location or Cycle Recount Entry by Location. You can create a worksheet to record the results of a cycle count. For serialized data, the system lets you record counted serialized items in a pack using Cycle Count Entry by Location or Cycle Recount Entry by Location. You can see the results in Cycle Count Results Report. When the items are packed and serialization is enabled, the system prints the number of packs using Cycle Count Worksheet Print.

You enter the time for cycle count batch processing in the Cycle Count Batch Active (D H: M) field in the Serialization panel in **Inventory Control**. Once you initiate a cycle count for a location, the system initiates a new batch at the same time. The batch expires after this amount of time has elapsed.

Item Number

Enter the code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Prod Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

Item Type

Optionally, enter a range of item type codes. This limits item record selection to records associated with these type codes.

Item type is an optional code specified in **Items** that lets you categorize similar items. Item type is validated against predefined values entered in the Generalized Codes view for the field pt_part_type, if any.

Product line, group, and type all categorize items. You can use item group and type to subdivide product lines, or they may cross product lines, providing an entirely different view of your items.

You can use both group and type for processing and reporting sales and planning information, and updating product costs. Most item and inventory reports can be selected by group and type. Selective MRP/DRP can be run by item group and type.

Items can be selected for cycle count based on item type, but not group.

Site

Enter a code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This step is determined by the setting for Automatic Locations at that site. If Automatic Locations is set to No

for the site, the location must be defined in the Location view before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Last Count

The default is the system date. This is a system-maintained field that records the last date a cycle count or physical inventory count updated a location detail record.

Last count date can be used to select items for cycle counting, either by a range of dates or by past due only.

ABC Class

A blank in this field selects all records in the item range specified, regardless of the ABC code. Enter A, B, or C to select only those items with the specified ABC code. This field is validated against generalized codes.

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as the Inventory Valuation Report, can be selected for ranges of ABC classes.

Number of Items

Specifies the maximum number of items to be printed on this report. The default is 99999999.

Items are selected for counting based on the selection criteria. Then, this number of items is printed on the cycle count worksheet. If more than this number are selected for counting, only this number print.

If number of items is left at 99999999, all items are printed, regardless of the percentages entered by A, B, C class or the selection of random counts.

A, B, C

Specifies the percentage of class A, B, or C items to count.

Items are selected for counting based on the selection criteria. At least this percentage of the items selected are from this class. However, if the percentages do not sum to 100%, the system adjusts the percentages. For example, if you enter 10% for A, 10% for B,

and 10% for C, the system treats the percentages as if you entered 33%-33%-34%.

If Number of Items is left at 99999999, all items are printed, regardless of the percentages entered by A, B, C class or the selection of random counts.

Other

Specifies the percentage of non-ABC items to count.

Items are selected for counting based on the selection criteria. At least this percentage of the items selected are from this class. However, if the percentages do not sum to 100%, the system adjusts the percentages. For example, if you enter 10% for A, 10% for B, and 10% for C, the system treats the percentages as if you entered 33%-33%-34%.

If Number of Items is left at 99999999, all items are printed, regardless of the percentages entered by A, B, C class or the selection of random counts.

Sort by Item or Site

Values can be Item or Site. The default is Item. Specifies the sequence in which items are to be selected for counting.

Item specifies items are to be reviewed and selected in item code sequence. Site specifies items are to be reviewed and selected in sequence by site and then by item code.

Notice that, in both cases, items are selected alphabetically by item code—they are not selected randomly.

Randomized Selection

Indicates if the selection should be random.

If this field is set to No, the selection is not random. Items are selected based on the last count date and item number. If this field is set to Yes, the selection is random. This field does not use the results of earlier cycle counts—if item X was counted last time, it is just as likely to be selected for count this time as item Y, even if item Y has never been counted.

Depending on the other selections you have made in Cycle Count Worksheet Create, you may get fewer than the number of items you have entered in Number of Items. Number of Items sets a maximum.

If number of items is left at 99999999, all items are printed, regardless of the percentages entered by A, B, C class or the selection of random counts.

When you first start using cycle counting, last count dates are likely to be blank. You may consider using random counting for a period of time, at least until most items have been counted at least once. After that, you may choose to use other criteria for selection. Remember that the

true purpose of cycle counting is not to correct the quantity in inventory, but to correct the cause of that inaccuracy.

Customer Consigned

This field has an effect only when you are using Customer Consignment Inventory.

Select Exclude (the default), Include, or Only to indicate how consigned inventory should display on this report or inquiry.

- Exclude displays non-consigned inventory only.
- Include displays both consigned and non-consigned inventory.
- Only displays consigned inventory.

You do not typically include customer consigned inventory in physical inventory functions since this inventory does not actually reside at your site. It is physically located at the customer site and only tracked in the system until used by the customer.

Supplier Consigned

This field has an effect only when you are using Supplier Consignment Inventory.

Select Exclude (the default), Include, or Only to indicate how consigned inventory should display on this report or inquiry.

- Exclude displays non-consigned inventory only.
- Include displays both consigned and non-consigned inventory.
- Only displays consigned inventory.

Past Due Only

Validated against predefined values entered in **Generalized Codes**, if any. Indicates if only items due to be counted should be included on this report.

When a Cycle Count Worksheet is printed, usually only items due to be counted are included. To see if an item is due for a count, the system compares today’s date with the last date it recorded a cycle count for the item. If the period is longer than the specified count interval, then this item is due to be counted.

The value entered in **Items** is used as the default for all sites. It may be changed manually for any site, as needed.

Cycle count intervals are normally assigned based on the ABC class of the item. They can be updated automatically using the Item ABC Status Update action.

This field refers to inventory location detail records for any given item. Therefore, it may be possible that any two location detail records for the same item have different last-counted dates. This may result in the

selection of only one item rather than both items when the Past Due Only field is set to Yes.

Print Quantity OH

Indicates if the quantity on hand for the item prints on the cycle count worksheet.

If Yes, the quantity on hand prints right beside the item number. This is the quantity of the item, lot/serial, and lot reference, that the system has recorded as on hand at this site and location. After the physical count is taken, it is compared to this quantity.

Usually, you do not print the quantity on hand on the cycle count worksheet. If the quantity counted does not match the quantity printed on the report, the person counting may be tempted to record what is on the sheet rather than recount and enter that count. Since the reason for cycle counting is to verify inventory accuracy and catch errors, this would not be very effective.

New Page on Site

Specifies if items from different sites are to be printed on separate pages of the report.

If this field is set to Yes, different sites must be printed on separate pages. The printer advances to the next page before printing items for a different site. If this field is set to No, all sites are printed on the same report.

If sites are physically separated, or if different people have responsibility for counting inventory at each site, set this field to Yes. This allows you to easily distribute parts of the report to different people.

Include Zero Quantity

Specifies if locations with zero quantity on hand should be counted.

If this field is set to Yes, locations with zero quantity are selected for counting. If this field is set to No, they are not.

In some stockrooms, specific locations are reserved for specific items. For example, one type of resistor may always be stored in a specific bin location and, normally, nothing else is stored there. In that case, you normally count locations with zero quantity on hand. This verifies that you actually have none of the item in that location and that nothing else has been put there by mistake.

New Page on Location

Specifies if items from different locations are to be printed on separate pages of the report.

If this field is set to No, all locations should be printed on the same report. If this field is set to Yes, different locations should be printed on

separate pages. The printer advances to the next page before printing items for a different location.

If locations are physically separated, or if different people have responsibility for counting inventory at each location, set this field to Yes. This allows you to easily distribute parts of the report to different people.

Include Negative Inventory

Specifies if locations with negative quantity on hand should be counted.

If this field is set to Yes, locations with negative quantity are selected for counting. If this field is set to No, they are not.

This field should be set to Yes if you allow overissues. When overissues are allowed, inventory may be issued from a location, even if that issue causes the quantity on hand to become negative. This may happen when transactions are batched for data entry simply because of timing. The issues get processed before the receipts. The Inventory Status field in **Inventory Detail** indicates if overissues are allowed.

Negative quantity on hand, in this situation, tends to be short lived. However, if an item has a negative inventory balance after all transactions are processed, this indicates a problem. That is one of the reasons for counting, to identify and solve problems.

Print Bar Code

Assuming your printer is set up to print bar codes, this field specifies whether bar codes are printed or not.

If this field is set to Yes, fields such as item number are printed in bar code format with the alphabetic code beside it. If this field is set to No, only the alphabetic code prints.

To implement bar code printing, you need a bar code capable printer, and correct printer control sequences for the printer entered in the Bar Code Control fields in Printers.

Include Phantom Items

Specifies if phantom items are counted. Phantom items are not normally held in stock; instead, they are transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product.

If this field is set to Yes, the report includes phantom items. Phantom items are set up when Phantom is Yes in the Planning panel in the Items view.

Usually, phantom items are not stocked, so they do not need to be counted. If your company does hold stock of phantom items, you may want to include them in your regular cycle counts.

Print Serial ID

Determines if serial IDs at the pack level are displayed on the report. If this field is set to Yes, the report displays the serial IDs from the master pack level to the aggregated pack levels. If this field is set to No, the report does not display the pack serial IDs.

Display Item Serial ID

Determines if serial IDs at the item level are displayed on the report. Item serial IDs are only displayed if the Print Serial ID setting is also set to Yes.

Initial Count and Recount Actions

To enter the initial count during the cycle count process, go to the **Cycle Count**browse and select Action > Initial Count. To enter a recount, select Action > Recount.

The system supports a two-step cycle counting process:

1. First, someone counts the inventory and enters the count using the Initial Count action. If that count matches the system quantity on hand or if the difference is within predefined error tolerances, the system accepts the count and changes the inventory balance to the quantity counted.
2. If the initial count is rejected, you need to determine if there were errors in the count. Based on this determination, another physical count is often taken. Enter these result as a recount using the Recount action. The system then changes the inventory balance to equal the number counted.

Error tolerance levels are the primary control over the cycle counting process. Use the Inventory panel in **Inventory Control** to enter both quantity and value tolerances for each ABC class, calculated based on annual usage (volume) or quantity on hand (Qoh). The count is accepted only when you enter an initial cycle count and the variance is within both the quantity and value tolerance.

Cycle counting functions use these Inventory Control settings whenever a count is entered that is different from the quantity on hand recorded in the system. Error tolerance is calculated and used to determine whether the entered count should be accepted or marked as an error to be corrected during recount. Both percentage and amount tolerances are checked. The error must be within both tolerances for it to be accepted.

If the tolerance method is Qoh, item tolerances are calculated as a percentage of quantity on hand. If the tolerance method is Usage, item tolerances are calculated as a percentage of annual usage. Value (currency) tolerance is always checked as the difference between the value of the quantity counted and the value of the Qoh.

Tolerances are set up by ABC class. This allows you to exercise a greater degree of control over class A and B items than others. Setting tolerances based on annual usage further refines this by putting tolerance into perspective with the amount of use of an item.

You can override the tolerances and any location restrictions when you do a recount.

When the initial count is accepted within tolerance or when the recount is processed successfully, then the Quantity On Hand for the location is updated, and the Date Last Counted is set to the current date.

Transaction History

The system maintains a complete audit trail of inventory transactions in transaction history (tr_hist). Each transaction is identified by a transaction number and a transaction type. Three transaction types are created by this program:

- CYC-CNT. An initial cycle count within tolerance levels. Inventory balance is changed when count is within tolerance. A CYC-CNT record is created for 0 Qty when the count matches the current inventory balance at the reported location.
- CYC-ERR. An initial cycle count outside tolerance levels. Inventory balance is not changed.
- CYC-RCNT. A recount. Inventory balance is changed.

Additional transactions are created for Consignment. See Consignment section below.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using Operational Transaction Post. Review unposted transactions with Unposted Transaction Inquiry and Register.

- Debits or Credits the Inventory account defined in Inventory Accounts for the product line, site, and location.
- Credits or Debits the Inventory Discrepancy account defined in Inventory Accounts for the product line, site, and location.

If the item quantity on hand is adjusted by a cycle count, the system creates a general ledger transaction to adjust the inventory balance. The difference is posted to the Inventory Discrepancy account.

Consigned Inventory

If you are using the optional Customer or Supplier Consignment Inventory modules, procedurally determine how to manage consigned inventory during cycle counts.

- If you are using the Customer Consignment Inventory module, you typically exclude consigned inventory during cycle count because it is not physically present at your site.
- If you are using the Supplier Consignment Inventory module, you typically include consigned inventory in cycle counts.

When you exclude consigned inventory, any cycle count adjustments affect non-consigned inventory only.

If you choose to include supplier consigned inventory or do a cycle count of customer or supplier consigned inventory only, the system uses special transactions when adjusting inventory downward.

- Downward adjustments to customer consigned inventory create the standard cycle count transaction (CYC-CNT) and a CN-CNT transaction. The CN-CNT transaction is used to reverse the inventory effects of the CYC-CNT transaction. This is followed by an ISS-SO and CN-USE to track the inventory changes and transfer ownership of the material.
  - Whenever the system updates consigned inventory, appropriate updates are also made to corresponding consignment accounts.
  - If there is consigned inventory and non-consigned inventory for the item/site/location/lot/serial/ref, the consigned qty is counted first.
    - For example:
      - If there is qty 10 consigned, and 1 non-consigned, if you count 10.0, the consigned qty remains 10.0, and the non-consigned is adjusted down. Only the CYC-CNT transaction would be created; no consignment transactions would be created.
      - If there is qty 10 consigned, and 1 non-consigned, if you count 9.0, the consigned qty changes to 9.0, the CYC-CNT transaction would be created, and there would be consignment transactions created for the 1 consigned that is being adjusted down.
  - Adjustments that increase the quantity use the standard CYC-CNT transactions. Surplus is always added to non-consigned inventory.
  - If the site/location is set to allow overissue, you can enter a negative count, and the consignment transactions are created.
  - If the site/location is not set to allow overissue, you should get an error and should not be able to submit (this is for all cycle counts, not strictly customer consignment related).
- When consigned and non-consigned supplier inventory are combined in a location, the system checks the value of Use Consignment First in **Inventory Control** to determine how to manage adjustments.

Downward adjustments to supplier consigned inventory create the standard CYC-CNT transaction, followed by RCT-PO and CN-ISS transactions to track the inventory changes and transfer ownership of material.

Whenever the system updates consigned inventory, appropriate updates are also made to corresponding consignment accounts.

Adjustments that increase the quantity use the standard CYC-CNT transactions. Surplus is always added to non-consigned inventory. In both modules, you can use the appropriate **Consignment Inventory Adjustment** function to associate surplus inventory with a consignment order, if needed.

Corrections

If you process an incorrect quantity in this transaction, you can reverse it by processing the same transaction again with a negative quantity. Be sure to enter the same site, location, lot/serial, and lot reference numbers as you entered on the original transaction. After you reverse the original entry, process this transaction again with the correct quantity. This maintains a complete audit trail.

Summary

The Summary panel displays the Items Counted and Total Amount Variance.

Items Counted

Displays the sum total number of rows in the Main grid. This number is updated as new lines are added.

Total Amount Variance

Displays the sum total of the Amount Variance field for all rows in the grid.

Main

Item

Enter the code that identifies the inventory item. If the item is serialized (Serial Control = M), use Cycle Count Entry by Location to perform the cycle count.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Description

Displays the description of the item.

Site

Enter a code identifying a site. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Enter the inventory quantity's location.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction--issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

Enter the lot/serial number associated with this inventory quantity. To enter more than one lot/serial number on a transaction, click New to add an additional item to the grid.

Reference

Enter a reference number to associate with the specified item being counted. For example, this can be the production lot of the item or a location reference such as a pallet number. Reference numbers are optional.

Quantity Counted

The quantity counted for this item at this site and location.

The quantity on hand is compared to the count quantity. If the difference is within the allowed error tolerance, the item quantity on hand is updated to the count amount. If the difference is more than the allowed error tolerance, a warning icon will be displayed in the Status field.

Status

Indicates if the value entered in the Quantity Counted field is out of tolerance. If the value is out of tolerance, a Warning icon is displayed in this field.

Effective Date

Defaults to the current date for first row entered in grid but can be modified by the user.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances. The date must be within an open GL period, otherwise the system displays an error.

The date of the transaction may differ from the Effective Date. The transaction date is usually when the transaction was actually entered into the system. The effective date is when the transaction is to affect the general ledger. At period end these are often different. For example, if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday's date even though the transaction is entered on Monday's date.

UM

Displays the item's unit of measure. The UM defaults after the item is entered in the Item field. If this field is blank, the UM defaults to the Item UM.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure. The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of

measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

Remarks

Specify brief remarks (up to 10 characters) associated with this transaction.

Usually these identify the source or the reason for the transaction--for example, the document number associated with an unplanned transaction. When transactions are recorded in other modules, such as sales, the system sometimes stores information (the packing list or invoice number) in the remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

Credit Account

Enter the general ledger (GL) account code used to track credit amounts for inventory adjustments resulting from this cycle count. This must be a valid, active account of type Standard.

Discrepancies reported during cycle counts normally create the following GL entries:

- Debit (Credit) the Inventory account defined in Inventory Accounts for the product line, site, and location.
- Credit (Debit) the Inventory Discrepancy account defined in Inventory Accounts for the product line, site, and location.

You can override the default credit account if needed, but not the debit account.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among

the set of accounts, based on percentages defined in Operational Allocation Codes.

Credit Sub-Acct

Enter the general ledger (GL) sub-account code used to track credit amounts for this inventory transaction.

Sub-account code is one component of an account number defined in GL setup functions. Other components of an account number are account, cost center, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use sub-accounts to provide additional detail on GL reports.

Credit Cost Ctr

Enter the general ledger (GL) cost center code to be credited for inventory adjustments resulting from this cycle count.

Cost center code is one component of an account number defined in GL setup functions. Other components of an account number are account, sub-account, and project code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use cost centers to provide additional detail on GL reports.

Amount

Displays the GL amount.

Tolerance Method

Displays the tolerance method: (Quantity on Hand or Usage). This value, which is set up in **Inventory Control**, defaults in after filling out the Item, Site, Lot/Serial, and Reference fields.

The tolerance method is used to calculate the error tolerance for items in each ABC class. Cycle Counting and Physical Inventory functions use this whenever a count is entered which is different than the quantity on hand recorded in the system. Error tolerance is calculated and used to determine whether the entered count should be accepted or marked as an error. Both percentage and amount tolerance is checked. The error must be within both tolerances for it to be accepted.

If the tolerance method is Qoh, item tolerances are calculated as a percentage of quantity on hand. If it is Usage, item tolerances are

calculated as a percentage of annual usage. Value (dollar) tolerance is always checked.

For example, there is a Class A item with quantity on hand of 100, annual usage of 1000, and a GL cost of 10 dollars. The tolerance level is set to 10% or 500 dollars.

If the tolerance method is Qoh, counts off by more than 10 units are marked as out of tolerance (quantity on hand 100 * 10% = 10). If the tolerance method is Usage, counts off by more than 100 units are marked as out of tolerance (annual usage 1000 * 10% = 100).

Regardless of the percent tolerance, if the count is off by more than 500 dollars it is marked as out of tolerance. Given a GL cost of 10, any count more than 50 units different than the system quantity on hand is marked as an error.

Tolerances are set up by ABC class. This allows you to exercise a greater degree of control over class A and B items than others. Setting tolerances based on annual usage further refines this by putting tolerance into perspective with the amount of use of an item.

Tolerance

Displays the count tolerance percentage for items with this ABC class. This value, which is set up in **Inventory Control**, defaults in after filling out the Item, Site, Lot/Serial, and Reference fields.

Cycle counting functions use this whenever a count is entered that is different from the quantity on hand recorded in the system. Error tolerance is calculated and used to determine whether the entered count should be accepted or marked as an error to be corrected during recount. Both percentage and amount tolerance is checked. The error must be within both tolerances for it to be accepted.

If the tolerance method is Qoh, item tolerances are calculated as a percentage of quantity on hand. If it is Usage, item tolerances are calculated as a percentage of annual usage. Value (currency) tolerance is always checked.

Unlike cycle counting, physical inventory counts let you enter out-of-tolerance quantities. No recount step is required. Instead, out-of-tolerance items are identified on count reports.

Tolerances are set up by ABC class. This allows you to exercise a greater degree of control over class A and B items than others. Setting tolerances based on annual usage further refines this by putting tolerance into perspective with the amount of use of an item.

Tolerance Amount

Displays the count tolerance amount for items with this ABC class. This value, which is set up in **Inventory Control**, defaults in after filling out the Item, Site, Lot/Serial, and Reference fields.

Cycle counting functions use this whenever a count is entered that is different from the quantity on hand recorded in the system. Error tolerance is calculated and used to determine whether the entered count should be accepted or marked as an error to be corrected during recount. Both percentage and amount tolerance is checked. The error must be within both tolerances for it to be accepted.

If the tolerance method is Qoh, item tolerances are calculated as a percentage of quantity on hand. If it is Usage, item tolerances are calculated as a percentage of annual usage. Value (currency) tolerance is always checked.

Tolerances are set up by ABC class. This allows you to exercise a greater degree of control over class A and B items than others. Setting tolerances based on annual usage further refines this by putting tolerance into perspective with the amount of use of an item.

GL Cost

Displays the GL Cost in the system. This value defaults in after filling out the Item, Site, Lot/Serial, and Reference fields.

Last Count

Displays the last date a cycle count transaction was entered for this item at this site. This value defaults in after filling out the Item, Site, Lot/Serial, and Reference fields.

Last count date can be used to select items for cycle counting, either by a range of dates or past due only.

Quantity on Hand

The quantity on hand for this item, lot/serial, and lot reference number, in storage at this site and location. This value defaults in after filling out the Item, Site, Lot/Serial, and Reference fields.

The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

In some cases, quantity on hand may be negative. This is determined by the inventory status Overissue field. If Overissue is Yes, then inventory is allowed to go negative.

Amount Variance

Displays the amount variance, which is automatically calculated as follows:

Amount Variance = (Total Quantity Counted * GL Cost of Item) - (Quantity on Hand * GL Cost of Item)

Note Total Quantity Counted = Quantity Counted * UOM Conversion

Annual Usage Variance

Displays the annual usage variance, which is automatically calculated as follows:

Annual Usage Variance = ((Total Quantity Counted - Quantity on Hand) / (Average Daily Issues * 365)) * 100

Note Total Quantity Counted = Quantity Counted * UOM Conversion

Note If the Average Daily Issues is 0 and the Total Quantity Counted is not equal to the Quantity On Hand, then the Annual Usage Variance is 999999.99.

Quantity On Hand Variance

Displays the quantity on hand variance, which is automatically calculated as follows:

Quantity on Hand Variance = ((1- Total Quantity Counted / Quantity on Hand) * 100)

Note Total Quantity Counted = Quantity Counted * UOM Conversion

Item ABC Status Update Action

To assign ABC classifications to items, go to the **Cycle Count** browse and select Action > Item ABC Status Update.

Use Item ABC Status Update to assign ABC classifications to items, which identify the item's relative importance and how tightly controlled the items should be. Count frequencies and error tolerances are identified by ABC class. The more important A items are cycle counted more often and more carefully than C items. Normally, ABC classifications are reviewed and updated at least once a year.

This function can take a long time to process. Submit it in batch to free your terminal for other tasks.

You can run Item ABC Status Update several times, once for each combination, and review the suggested ABC classes. Pick the best one and use that to set the ABC class for each item. Make manual adjustments in **Items** in the Site Inventory Exceptions grid on the Site. A key item may have been assigned class C because it is inexpensive when it should be class A because it has a long lead time.

All items in the specified product line and site are ranked in descending sequence by annual usage. Annual usage is calculated as Average Sales (or Average Issues) multiplied by item cost (or gross margin). Usually, the top 20% of the items are ranked A; the next 30% B; the rest, C. Any quantity below C is assigned a blank ABC code. For instance, if A=10, B=20, and C=30, the remaining 40% has a blank code.

If you specify Update Average Usage, average sales and average issues are updated first to reflect activity since the last average was calculated.

If you set the Update fields to Yes, the item record is updated with the new ABC classes and count intervals only. Otherwise, a report is generated but no update occurs.

When this program updates the ABC class and item-site inventory records do not exist in the Site Inventory Exceptions grid in **Items**, new records are created.

Always print the audit report when you update. If you need to go back to the original ABC class or cycle count interval, the information for each item must be entered manually in the Site Inventory Exceptions grid in **Items**.

You should define menu security for this program to restrict access.

Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

You can select many reports by product line code ranges. You can set up similar types of product lines starting with the same character so that they can be easily aggregated on reports. Product lines are alphanumeric and sort in alphanumeric sequence, even if you use numbers for product lines. For example, lines 1, 2, 3, ..., 10, 11, ..., 20, 21, will sort: 1, 10, 11, ..., 2, 20, 21, ..., 3.

Site

Enter a code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Based on Sales or Issues

Enter the ranking criteria for this report.

Items are ranked, based on the selection criteria, and are listed in descending sequence of annual usage amount. Annual usage amount may be calculated using either the average sales or the issue quantity, along with either the cost or the gross profit for the item.

The system keeps track of the quantity sold and the quantity issued for each item and site. On a periodic basis, the Item ABC Status Report/ Update can be used to calculate the averages of each. Average sales include only quantities shipped on sales orders. Average issues include the quantity sold, along with all other issues such as unplanned issues and work order issues.

If this field is set to S (Sales), items are ranked according to average sales. If this field is set to I (Issues), items are ranked according to average issues.

This value is multiplied by the item cost or gross profit to determine the annual usage amount. If C (cost) is specified, the system uses the total GL (standard) cost for the item. If G (gross profit) is specified, the system subtracts the total GL (standard) cost from the item base price.

Only items with an ABC class of A, B, C, or blank are considered by this report. Other item ABC classes are ignored.

Based on Cost or Gross Profit

Values can be C (Cost) or G (Gross profit). The default is C.

Specifies the ranking criteria for this report.

Items are ranked based on the selection criteria and listed in descending sequence of annual usage amount. Annual usage amount

can be calculated using either the average sales or the issue quantity, along with either the cost or gross profit for the item.

The system keeps track of the quantity sold and the quantity issued for each item and site. On a periodic basis, the Item ABC Status Report/ Update can be used to calculate the averages of each. Average sales include only quantities shipped on sales orders. Average issues include quantity sold, along with all other issues such as unplanned issues and work order issues.

A Based on Sales or Issues field value of S indicates that items are to be ranked according to average sales. A Based on Sales or Issues field value of Issues indicates that items are to be ranked according to average issues.

This value is multiplied by the item cost or gross profit to determine the annual usage amount. If Cost is specified, the system uses the total GL (standard) cost for the item. If Gross Profit is specified, the system subtracts the total GL (standard) cost from the item base price.

Only items with an ABC class of A, B, C, or blank are considered by this report. Other item ABC classes are ignored.

Cost Set

The default is Standard. The name of the cost set storing the general ledger (GL) cost for this item at this site.

The cost set is used by Detail Forecast Report to calculate the cost of production and sales price for the item forecast.

Update ABC Class

Specify whether to update item ABC class to reflect the recommended ABC classifications.

If this field is set to No, the report lists the recommendations but does not change the item ABC class. If this field is set to Yes, the item ABC class is changed automatically to the recommended value.

Items are ranked, based on the selection criteria, and listed in descending sequence of annual usage amount. Each item is assigned either an A, B, or C classification. Usually, the top 20% of the items are A, the next 30% are B, and the rest C, but this can be changed manually. Any quantity below C—for instance, where A=10, B=20, and C=30, and a remainder of 40% is left—is assigned a blank ABC code.

Only items with an ABC class of A, B, C, or blank are considered by this report. Other item ABC classes are ignored.

Update Average Usage

Specifies whether average sales and issues for each item should be updated.

Items are ranked, based on the selection criteria, and listed in descending sequence of annual usage amount. Annual usage amount

can be calculated using either the average sales or the issue quantity, along with either the cost or gross profit for the item.

The system keeps track of the quantity sold and the quantity issued for each item and site. On a periodic basis, the Item ABC Status Report/ Update can be used to calculate the averages of each. Average sales include only quantity shipped on sales orders. Average issues include quantity sold, along with all other issues such as unplanned issues and work order issues.

A Based on Sales or Issues field value of Sales indicates that items are to be ranked according to average sales. A Based on Sales or Issues field value of Issues indicates that items are to be ranked according to average issues.

This value is multiplied by the item cost or gross profit to determine the annual usage amount. If Cost is specified, the system uses the total GL (standard) cost for the item. If Gross Profit is specified, the system subtracts the total GL (standard) cost from the item base price.

Only items with an ABC class of A, B, C, or blank are considered by this report. Other item ABC classes are ignored.

Item Status to Exclude

Optionally, enter one or more item status codes. Item status codes are defined in the Item Status Codes view and they are associated with items on the Main panel in **Items**. Separate multiple status codes with commas.

If you enter codes in this field, this function does not process items associated with the specified status codes.

Update Cycle Count Interval for A, B, C Items

Indicate if the cycle count interval for each item in this class should be changed to a specified value.

Cycle count intervals are usually different for different classes of items. For example, A items are subject to a higher level of control and will be counted more frequently than B or C items. These intervals can be assigned automatically, based on the item ABC class. If Update ABC Class is set to Yes, first the system calculates the new ABC classes, then assigns the new count intervals.

Only items with an ABC class of A, B, C, or blank are considered by this report. Other item ABC classes are ignored.

New Interval

Specify the number of days cycle count interval to be assigned to items in this ABC class.

The default is 30 days for A items, 90 days for B items, and 180 days for C items.

Cycle count intervals are usually different for different classes of items. For example, A items are subject to a higher level of control and will be counted more frequently than B or C items. These intervals can be assigned automatically, based on the item ABC class. If Update ABC Class is set to Yes, first the system calculates the new ABC classes, then assigns the new count intervals.

ABC%-A, B, C

Specify the percentage of the items to be placed in each class. Percentages default to 20% A, 30% B, and 50% C.

Items are ranked, based on the selection criteria, and listed in descending sequence of annual usage amount. Each item is assigned either an A, B, or C classification. Usually, the top 20% of the items are A, the next 30% are B, and the rest C, but this can be changed manually. Any quantity below C—for instance, where A=10, B=20, and C=30, and a remainder of 40% is left—is assigned a blank ABC code.

If you specify Update ABC Class Yes, the item ABC class is changed automatically to the recommended value. If you specify No, the report lists the recommendations but does not change the item ABC class.

Only items with an ABC class of A, B, C, or blank are reported and updated by this report. Other ABC classes are used to determine the percentage of items for ABC classification, but they are not reported or updated by this report.

Cycle Count Batch Delete & Archive

This delete/archive function allows you to clean unnecessary data from the cycle count database.

You can filter for cycle count records by Site, Location, Item, In Process, and Last Count Date:

- **In Process**. This option, which indicates if the cycle count batch is still active, allows you to filter for records that are Closed, Open, or Expired. This option can also be set to Blank.
- **Closed**. Indicates that the cycle count batch is not active.
- **Open**. Indicates that the cycle count batch is active.
- **Expired**. Indicates that the time to perform the cycle count batch has expired according to the settings in the **Inventory Control** > Serialization panel > Cycle Count Batch active field.
- **Last Count Date**. This option allows you to filter for records according to the date the last count was performed.

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows you to see the records that fall within the specified filter criteria before deleting and archiving the records.

To delete records only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the records based on the filter criteria specified.

To archive records only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the records. The name of the file is displayed on the report.

To archive and delete records, set both the Archive and Delete options to Yes. Select Run; the system creates an archive file listing the deleted records and then deletes the records. The name of the file is displayed on the report.

Inventory Tags

Physical Inventory enables you to count and compare actual, on-hand inventory balances with on-hand quantities recorded in the system. This can also be done with cycle counting. To perform a physical inventory count, first determine the items you want to count and the count frequency. Each item to be counted must have a system-generated count tag, used to record item count information.

The **Inventory Tags** Action menu allows you to perform all the steps required to complete a physical inventory:

1. Deleting/archiving tags from the previous physical inventory. See Delete Tags Action on page 2832.
2. Freezing inventory balances. See Freeze Inventory Action on page 2846.
3. Creating count tags. See Create Tags Action on page 2835
4. Printing tags. Print Tags Action on page 2848.
5. Entering initial tag counts. See Count Tags Action on page 2851 if you do not use serialization, and Count Pack Tags Action on page 2859 if you are using serialization.
6. Reviewing results and enter recounts if necessary. See Recount Tags Action on page 2865 if you do not use serialization, and Recount Pack Tags Action on page 2872 if you are using serialization.
7. Setting uncounted counts to zero or voiding unused tags. See Update Uncounted Tags Action on page 2878 and Void Tags Action on page 2880.
8. Updating inventory balances. See Update Inventory Action on page 2882.

   Note If you use serialization and have serialized inventory, you should use the Count Pack Tags and Recount Pack Tag actions to count both loose and serialized inventory. If you are not using serialization, then you should use the Count Tags and Recount Tags actions.

The alternative to physical inventory is cycle counting. Regular cycle counting is usually preferred. It facilitates timely detection and correction of errors and maintains a high level of inventory accuracy.

As you perform the physical inventory count, the **Inventory Tags** browse displays the information that was recorded, such as the quantity counted and recounted, the date the count was performed, who performed the count, whether the count has been posted, and so on. If there are any issues during the physical inventory count, the Warning field displays a warning icon:

-  Yellow warning icon indicates that the count/recount date precedes freeze date.

-  Orange warning icon indicates that inventory is not frozen.
-  Purple warning icon indicates that inventory not found.

Delete Tags Action

Delete Tags is the first step in the physical inventory process. Use it to clear out old tag records before you create tags for a new physical inventory. If the old tag counts have been posted to inventory and stored in inventory transaction history, they do not need to be retained.

The system does not automatically delete historical information at period or year end. You can delete this information as frequently or as infrequently as you prefer. How often you should run this function depends on how long you need to retain historical information in your database. Most companies keep historical data for at least one year or longer, depending on availability of disk space.

You should run this function twice. First, run it with Delete set to No and review the report. Then, run it with Delete set to Yes.

When you set Delete to Yes, inventory count tags that satisfy the selection criteria are deleted from the database. If you set Archive to Yes, deleted data is copied to an ASCII file that can be reloaded using Archive File Reload. Otherwise, deleted data cannot be recovered.

When Archive is Yes, selected data is stored in a file named xxYYMMDD.hst, where xx is the module code or record type and YYMMDD is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran delete/archive the same day, the system adds the additional archived records to the end of the file.

Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, you can temporarily change your country code to match that of the user who archived the data in **Users** > Locale panel > Country Code field.

You should define menu security for this program.

Filter

Tag Number

The tag number for this physical inventory count. Tag number identifies the site, location, item, lot/serial, and lot reference number counted.

Each physical inventory count tag is assigned a unique tag number, which prints on the tag and is used for recording tag counts. Reports can be selected for ranges of tag numbers.

This number is assigned to the first tag created, then it is incremented by 1. This numbering system prevents duplicate tag numbers.

Site

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Item

The code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Lot/Serial

The lot/serial number of the inventory counted. This may be blank, if the item is not Lot/Serial number controlled.

If the item is serial number controlled, a separate tag is created for each serial number in stock. The tag count must be for a quantity of one.

The lot/serial number entered must be valid. You can not create lot/serial numbers in inventory functions.

Posted Only

Specifies whether unposted tags are deleted. Each tag has a Posted field.

Yes indicates that the Update Inventory action has processed this tag count and used it to update the inventory balance. The Update Inventory action only processes tags which have not yet been posted (Posted = No), and then sets the Posted field to Yes. This prevents a tag from updating inventory balances more than once.

The Delete Tags action is used to purge tags that have been posted.

Delete

Indicate whether to delete the selected records or to generate a report only.

- If No, the selected records are not deleted. A report is generated listing the selected records.
- If Yes, the selected records are deleted from your database and listed in a report. If you set Archive to Yes when Delete is Yes, the selected records are copied to an ASCII file before deletion. Use Archive File Reload to reload the data, if needed.

Archive

Indicate whether to archive the selected records.

- If No, the selected records are not copied to an ASCII file.
- If Yes, the selected records are copied to an ASCII file. The system creates a file name in the following format: xxYYMMDD.hst, where xx identifies the module code or record type and YYMMDD is the file creation date. If this file does not

exist, it is created. If it does exist, records are appended to the end.

Archive File

Enter the name of the file that will contain the exported data.

Although the system generates a comma-delimited file, it does not add an extension. For example, if you want the file to be accessible to an external application that recognizes comma-separated value files, add .csv to the file name.

Create Tags Action

In physical inventory, each item to be counted needs a tag showing the item's site, location, and item number so that users can record the count information on the tag. In the event of a recount, recount information goes on the same tag.

The Create Tags action allows you to generate the three types of tags—item tags, pack tags and blank tags:

- **Item Tags.** Item tags are created for selected items. These tags specify the item number, site, product line, and ABC class.
- **Pack Tags.** Pack tags are created for selected serialized inventory. These tags specify the serial, item, site, product line, and ABC class.
- **Blank Tags.** . Blank tags are used to count items or serials that do not have item or pack tags.

  Note Blank tags are the same as bulk tags.

Pack Tags

When using the Create Tags action to create pack tags, the system creates pack tags for top level packs that match the selection criteria. The system will sort the created tags by location, generate pack tags for all of the top level packs whose stage is set to Active or Picked within the location entered, and will generate pack tags for any serialized loose items (not held in any serialized pack).

Item Tags

When using the Create Tags action to create an item tag, the system creates as many tags as are available based on the range of inventory you select and the Starting Tag Number. Each inventory detail that matches the selection criteria—each Site, Item Number, Location, Lot/Serial, and Ref—gets its own sequentially numbered tag. You can print tags for recording physical inventory counts.

In a physical inventory, blank tags are extras and are used if you find other items or lose a tag.

To correct a mistake, simply delete the tags using the Delete Tags action and then use the Create Tags action again.

Blank Tags

When using the Create Tags action to create blank tags, the system creates as many tags as are available based on the Starting Tag Number and the Number of Tags entered. Because the tags are blank, users write in the Serial, Site, Item Number, Location, Lot/Serial, and Ref when the count is recorded.

If you need more blank tags, you can run the Create Tags action again.

Duplicate Tags

To prevent duplicate tags from being created, the system displays an error if you enter an existing Tag Number.

When creating blank tags, if you enter an existing Tag Number and you enter a value in the Number of Tags field, the system displays a message saying there are zero tags available.

The system prevents duplicate item tags from being created if an open tag exists for that item. For example, if you enter a range of inventory that creates 100 tags and then you rerun this action again with the same range, the system does not create duplicate tags. If you needed to create duplicate tags for those 100 items, you would need to create 100 blank tags. If you run this again with the same range, the system creates duplicate tags even if those tags exist and the tags are still open.

Main

Tag Type

Select the type of tag that will be created:

- **Pack & Item Tags.** Select this Type if you are using serialization. Both Pack and Item Tags will be created for the Site/Location entered.
- **Item Tags.** Select this Type if you are not using serialization. Item tags will be created for the item, site, location, product line, and ABC class entered.
- **Blank Tags.** Select Blank to create blank tags.

  Note Blank tags are the same as Bulk Tags.

From Site

Enter the first site code for this function to consider.

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Note This option is not available if the Tag Type = Blank.

To Site

Enter the last site code for this function to consider.

Note This option is not available if the Tag Type = Blank.

From Location

Enter the first location code for this function to consider.

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in Locations before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Note This option is not available if the Tag Type = Blank.

To Location

Enter the last location code for this function to consider.

Note This option is not available if the Tag Type = Blank.

From Product Line

Enter the first product line code for this function to consider.

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product Lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using **Product Lines**.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

Note This option is not available if the Tag Type = Blank or Tag Type = Pack & Item.

To Product Line

Enter the last product line code for this function to consider.

Note This option is not available if the Tag Type = Blank or Tag Type = Pack & Item.

From Item

Enter the first item code for this function to consider.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Note This option is not available if the Tag Type = Blank or Tag Type = Pack & Item.

To Item

Enter the last item code for this function to consider.

Note This option is not available if the Tag Type = Blank or Tag Type = Pack & Item.

From ABC Class

Enter the first ABC classification code for this function to consider.

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as Inventory Valuations, can be selected for ranges of ABC classes.

Note This option is not available if the Tag Type = Blank or Tag Type = Pack & Item.

To ABC Class

Enter the last ABC classification code for this function to consider.

Note This option is not available if the Tag Type = Blank or Tag Type = Pack & Item.

Options

Starting Tag Number

The first tag number to create. Each physical inventory count tag is assigned a unique tag number, which prints on the tag and is used for recording tag counts. Reports can be selected for ranges of tag numbers.

The Tag Number defaults to the next available tag number (highest tag number used) plus 1. This number is assigned to the first tag created, then it is incremented by 1. This numbering system prevents duplicate tag numbers. If you enter an existing tag number, the system displays an error.

To reset this field to the default tag number, enter zero or blank and then tab out of this field.

To the right of the field, the system displays the number of tags available depending on the tag number entered. Because the system only creates the number the tags that are available, it is recommended that you accept the default tag number so that you create all the tags required.

To reset this to 1, use the Delete Tags action to delete all the existing tags.

Note If the maximum number of tags has been reached when the tags are created, the following error message is shown: "Not enough tags

available, maximum number reached. Use Tag Delete to make tags available."

Creating Item, Pack and Blank Tags

- **Item and Pack Tags.** The system creates item and pack tags based on the range of inventory you select and the Starting Tag Number. Because the system only creates the number the tags that are available, it is recommended that you accept the default tag number so that you create all the tags required based on the range of inventory you select. For example, if you are creating item tags and you enter a range that would create 100 item tags but you enter a tag number where only 20 tags are available, the system will only create tags for 20 items. You would then have to rerun this action and start with a tag number that would allow it to create the other 80 item tags.
- **Blank Tags.** The system creates the blank tags based on the Starting Tag Number and the Number of Tags entered. Because the system only creates the number the tags that are available, it is recommended that you accept the default tag number so that you create all the tags required based on the Number of Tags entered.

Number of Tags

The number of blank tags to create.

Blank tags do not specify any item, site, location, lot/serial, or lot reference information. The tag prints with blank spaces for each of these items.

Blank tags are used to record counts for items that do not have a preprinted tag. For example, blank tags are used when items are found where they were not expected—like in someone's drawer or in a wrong location.

This field is only available when the Tag Type is set to Blank.

Include Zero Quantity

Specifies if locations with zero quantity on hand should be counted.

If this option is selected, locations with zero quantity are selected for counting. If this option is not selected, they are not.

In some stockrooms, specific locations are reserved for specific items. For example, one type of resistor may always be stored in a specific bin location and normally nothing else is stored there. In that case, you normally will count locations with zero quantity on hand. This verifies that you actually have none of the item in that location and that nothing else has been put there by mistake.

Include Negative Quantity

Specifies if locations with negative quantity on hand should be counted.

If this option is selected, locations with negative quantity are selected for counting. If this option is not selected, they are not.

This option should be selected if you allow overissues. When overissues are allowed, inventory may be issued from a location even if that issue causes the quantity on hand to become negative. This may happen when transactions are batched for data entry simply because of timing. The issues get processed before the receipts.

Negative quantity on hand in this situation tends to be short lived. However, if an item has a negative inventory balance after all transactions are processed, this indicates a problem. That is one of the reasons for counting, to identify and solve these problems.

Print Tag

Select this option to print the tags that will be created. If this option is selected, when you select Submit, the Print Tags window opens, allowing you to print the newly created tags.

Customer Consigned

This field has an effect only when you are using the Customer Consignment Inventory module.

Select Exclude (the default), Include, or Only to indicate how consigned inventory should display on this report or inquiry.

- Exclude displays non-consigned inventory only.
- Include displays both consigned and non-consigned inventory.
- Only displays consigned inventory only.

You do not typically include customer consigned inventory in physical inventory functions since this inventory does not actually reside at your site. It is physically located at the customer site and only tracked in the system until used by the customer.

The field is only available if the Use Customer Consignment option is selected in **Inventory Control** > Customer Consignment panel.

Supplier Consigned

This field has an effect only when you are using the Supplier Consignment Inventory module.

Select Exclude (the default), Include, or Only to indicate how consigned inventory should display on this report or inquiry.

- Exclude displays non-consigned inventory only.
- Include displays both consigned and non-consigned inventory.

- Only displays consigned inventory only.

The field is only available if the Use Supplier Consignment option is selected in **Inventory Control** > Supplier Consignment panel.

Sort Option

Select the sort option, which specifies the sequence in which tags are to be created:

- Item, Lot/Serial, Site, Location
- Item, Site, Location, Lot/Serial
- Site, Location, Item, Lot/Serial

Inventory balances are reviewed and tag numbers are assigned in the sort option specified—by item and site, by site and location, or by item and lot/serial number.

Since tags can be printed and tag reports reviewed for ranges of tag numbers, it is best to choose a sort option which corresponds to the way you assign items to be counted—if you assign different people to count different sites and locations, select the "Site, Location, Item/Serial" sort option.

Create Item Tags

Follow these steps to create item tags:

1. In **Inventory Tags**, select the Create Tags action.
2. In the Tag Type field, select Item. By default, the Tag Type field is set to Item.
3. Enter the range of inventory to create tags for by specifying the From and To fields for Site, Location, Product Line, Item, and ABC Class.
   - If fields are left blank, the system considers all inventory that exists. For example, if you enter 10-200 in the From Site and To Site and other fields are left blank, you will create tags for all inventory at 10-200.
   - To select all items, leave the range blank.
4. Enter the Starting Tag Number.

   Note To the right of the field, the system displays the number of tags available depending on the tag number entered. Because the system only creates the number of tags that are available, it is recommended that you accept the default tag number so that you create all the tags required.
5. Optionally, use the Include Zero Quantity and Include Negative Quantity options to determine if you should create tags for items in locations with zero or negative quantities.
6. Specify if you are creating tags for customer or supplier consigned inventory by selecting the Customer Consigned or Supplier

Consigned settings. If you are not creating tags for customer or supplier consigned inventory, the Customer Consigned or Supplier Consigned fields should both be set to Exclude.

- **Exclude.** Displays non-consigned inventory only.
- **Include.** Displays both consigned and non-consigned inventory.
- **Only.** Displays consigned inventory only.

Note The consignment fields are hidden if the Use Customer Consignment and Use Supplier Consignment options are not selected in **Inventory Control**.

7. Specify the Sort option.
8. Optionally, select the Print Tag option if you want to print the tags that will be created. When you select Submit, the Print Tags window opens, allowing you to print the newly created tags.
9. Select Submit to create the tags.

Create Pack & Item Tags

To create Pack & Item tags, follow these steps:

1. In **Inventory Tags**, select the Create Tags action.
2. In the Tag Type field, select Pack & Item.
3. Enter the range of inventory to create tags for by specifying the From and To fields for Site and Location
   - If fields are blank, the system considers all inventory that exists. For example, if you enter 10-200 in the From Site and To Site and other fields are blank, you will create tags for all inventory at 10-200.
   - To select all items, leave the range blank.
4. Enter the Starting Tag Number.

   Note To the right of the field, the system displays the number of tags available depending on the tag number entered. Because the system only creates the number of tags that are available, it is recommended that you accept the default tag number so that you create all the tags required.
5. Optionally, use the Include Zero Quantity and Include Negative Quantity options to determine if you should create tags for items in locations with zero or negative quantities.
6. Specify if you create tags for customer or supplier consigned inventory by selecting the Customer Consigned or Supplier Consigned settings. If you don't create tags for customer or supplier consigned inventory, the Customer Consigned or Supplier Consigned fields should both be set to Exclude.
   - **Exclude.** Displays non-consigned inventory only.

- **Include.** Displays both consigned and non-consigned inventory.
- **Only.** Displays consigned inventory only.

Note The consignment fields are hidden if the Use Customer Consignment and Use Supplier Consignment options are not selected in **Inventory Control**.

7. Specify the Sort option.
8. Optionally, select the Print Tag option if you want to print the tags that will be created. When you select Submit, the Print Tags window opens, allowing you to print the newly created tags.
9. Select Submit to create the tags.

Create Blank Tags

Follow these steps to create blank tags:

1. In **Inventory Tags**, select the Create Tags action.
2. In the Tag Type field, select Blank.
3. Enter the Starting Tag Number. It is recommended that you accept the default tag number.

   Note To the right of the field, the system displays the number of tags available depending on the tag number entered. Because the system only creates the number of tags that are available, it is recommended that you accept the default tag number so that you create all the tags required.

4. Enter the Number of Tags to be created.

   Note If a user enters a Starting Tag Number and the Number of Tags falls within a range of existing tags, the system creates tags up until the system reaches an existing tag. For example, if tags exist from 1001 to 2000 and you enter a Starting Tag Number of 999 and Number of Tags of 10, the system only creates 2 tags (tag numbers 999 and 1000).

5. Optionally, select the Print Tag option if you want to print the tags that will be created. When you select Submit, the Print Tags window opens, allowing you to print the newly created tags.
6. Select Submit to create the tags.

Create Untagged Inventory Tags Action

Create Untagged Inventory Tags Action allows you to create blank tags for all untagged inventory automatically, for both non-serialized and serialized inventory, by each item, site, location, lot, and reference combination. When you use this function, only blank tags are considered in preparation for physical inventory for all inventory.

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the record you are working on, including the starting Tag Number, From Site, To Site, From Location and, To Location fields. These fields are read-only and stay in view when scrolling down the page.

Main Panel

From Site

To create blank tag, enter the site for the system s. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

From Location

To create blank tags, enter the location for the system . Location codes identify physical locations where inventory is stored.

Starting Tag Number

Starting Tag Number defaults to the next available tag number. You can modify this if desired.

Remarks

Optionally, enter any comments in the Remarks field.

Remarks may be entered when tag recounts are recorded, usually to identify unusual situations or issues. Remarks can also be entered when a tag status is changed to void, so you can record the reason it was not needed.

To Site

This field defaults from From Site. You can modify this if desired.

To Location

This field defaults from From Location. You can modify this if desired.

To enter the initial recount, follow these steps :

1. Go to **Inventory Tags** browse.
2. Select **Create Untagged Inventory Tags Action**.
3. Enter From Site, To Site, From Location, To Location. Optionally, you can modify Starting Tag number and enter Remarks.
4. Click **Submit**.
5. After submitting, the system provides a confirmation message saying "Tag numbers xxxx to xxxx created: xxxx Blank tags."
6. Click **OK** to continue.

Freeze Inventory Action

After deleting old tags, freeze the inventory to be counted using the Freeze Inventory action. The system records the current quantity on hand for all selected inventory and uses this record to carry out the inventory count.

Note Only loose inventory is frozen when this action is performed. Serialized inventory is not affected.

Freezing inventory does not prevent the system from processing regular inventory transactions. Changes to inventory during a count must be included for the count to be accurate.

Freezing inventory records the quantity on hand at this moment, nothing more. All physical inventory functions use this frozen quantity.

Freeze inventory balances before entering any physical inventory counts and usually before creating tags—otherwise there may be inventory detail records with no tags (use blank tags), or tags with no inventory (use tag void).

The Freeze Inventory action records the current quantity on hand balance for each Site, Item Number, Location, Lot/Serial, and Ref. With Freeze Qty, it records the Freeze Date on each inventory detail (ld_det) record.

This action does not prevent inventory transactions from being processed. You should define menu security to restrict access to these programs.

Your procedures should prevent inventory transactions between a Freeze Inventory and an Update Inventory action since the result will often be incorrect inventory balances. The system displays warnings if you use the Count/Recount Tags actions before freezing inventory and if you use the Create Tags action for inventory that has not been frozen. The warnings are displayed in the **Inventory Tags** browse in the Warning field. If you choose to ignore this warning, you should maintain a paper record of all transactions and cycle count all affected locations after the Update Inventory action.

Main

Select inventory to be frozen using one or more of the following criteria:

- Site
- Location
- Product Line
- Item Number
- ABC Class

Enter the range of inventory to be frozen by specifying the From and To fields. If fields are left blank, the system considers all inventory that exists. For example, if you enter 10-200 in the From Site and To Site and other fields are left blank, all inventory at 10-200 will be frozen.

To select all items, leave the range blank.

Site

Enter a code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Product Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product Lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using **Product Lines**.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

Item

The code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

ABC Class

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as Inventory Valuations, can be selected for ranges of ABC classes.

Print Tags Action

Each item to be counted needs a tag showing the item's site, location, and item number. Then, record count information on the tag. In the event of a recount, recount information goes on the same tag.

There are three types of tags:

- **Item Tags.** Item tags are created for selected items. These tags specify the item number, site, product line, and ABC class.

- **Pack Tags.**Pack tags are created for selected serialized inventory. These tags specify the serial, item, site, product line, and ABC class.
- **Blank Tags.** These tags are like item tags, except that the item information is blank. Blank tags are used to count items that do not have item tags.

  Note Blank tags are the same as bulk tags.

Use the Print Tags action to print tags. You can print tags on most standard-size forms. Default forms are set to print on 3 x 5 inch card stock. You can optionally print the tag number in bar code format, if your system is formatted to do so.

The printed tags are given to those performing the count to enter the values of their count for the items being counted. Once the count is done, the papers are given to someone to enter the count into the system using the Tag Count.

In the event of errors, delete incorrect tags using the Delete Tags action, then recreate and print new ones.

Before deleting blank tags, void the tags using the Void Tags action.

Filter

Tag Number

The tag number for this physical inventory count. Tag number identifies the site, location, item, lot/serial, and lot reference number counted.

Each physical inventory count tag is assigned a unique tag number, which prints on the tag and is used for recording tag counts. Reports can be selected for ranges of tag numbers.

This number is assigned to the first tag created, then it is incremented by 1. This numbering system prevents duplicate tag numbers.

Reprint Tags

Specifies whether to print tags that have already been printed. For example, if you need to reprint a tag because it was damaged or lost, set this field to Yes.

When a tag is printed, the print date is set to the system date to show that the tag has been printed, and to prevent it from being printed again by mistake.

Print Bar Code

Assuming that your printer is set up to print bar codes, this field specifies whether bar codes are printed or not.

If Yes, work order ID and the operation number are printed in bar code format in the routing section of the picklist, with the alphabetic code beside it. If No, only the alphabetic code prints.

To implement bar code printing, you need a bar code capable printer, and correct printer control sequences for the printer entered in the Bar Code Control fields in Printers.

Bulk Tag Format

Indicate the format of blank/bulk tags to print. Enter Pack to print these tags as a pack tag or enter Item to print them as an item tag.

Note Blank tags are the same as bulk tags.

Print Item Serial

Specify if item serial IDs are printed on the item tag. Enter Yes to print the item serial IDs; otherwise, enter No.

Print Content of Pack

Indicate how the system prints the pack contents.

- **Summary.** Enter Summary to print the quantity of child packs by pack code.
- **Detail.** Enter Detail to list lower-level packs by serial IDs.

If the pack data cannot be printed on a single tag, print the other information on another page, with the tag number on it.

Levels

Identify the number of levels of serial hierarchy to print on the pack tag. This option is only enabled when Print Content of Pack is set to Detail. Default value is 2.

- **0.** Set to 0 to print all lower-level serial IDs of the pack.
- **1.** When set to 1, no lower-level packs print because level 1 is the top level of the serial hierarchy.
- **2.** When 2, the system prints serial IDs of the second level on the pack tag.

Forms Across

Specifies the number of count tags to print side by side. The default is 1.

The number of tags prints horizontally across the page. For example, if you specify Forms Across = 2, then count tags for the first two items

are printed, then line feed(s), then the tags for the next to items, and so on.

Forms Across, Lines Per Form, and Width are all used to define the size and layout of your company's tags. You are not restricted to a particular size or type of tag.

Count Tags Action

Note The Count Tags action should only be used if serialization is not in use. If serialization is being used, the Count Pack Tags action should be used to enter counts into the system.

Physical inventory counts records and compares actual counts for an item with the system quantity on hand. It can also be used to update quantity on hand by running the Update Inventory action.

Start the physical inventory process by freezing inventory balances and creating count tags for each inventory detail record (each Site, Item Number, Location, Lot/Serial, and Ref number combination). You can print extra blank tags in case you find other items or lose a tag.

Next, count items only against existing count tags and then record the counts. The system accepts all counts and variances, even if they are out of tolerance; unlike cycle counting, physical inventory requires no recount step.

- The Count Tags action does not affect inventory balances. Inventory balances are not changed until you use the Update Inventory action.
- The Count Tags action does not affect GL transactions. No GL transactions are created until you use the Update Inventory action.

Review out of tolerance counts on the **Physical Inventory Variance** browse . Error tolerance levels are the primary control over the physical inventory process. In **Inventory Control** > Inventory panel, you can enter quantity and value tolerances for each ABC class, calculated based on annual usage (volume) or quantity on hand. Large count variances should be verified and recounts entered prior to using the Update Inventory action.

Since count quantities must reflect inventory transactions processed after inventory balances are frozen, the Update Inventory action does not simply override inventory balances—it adds (or subtracts) the difference between the frozen quantity and the counted quantity.

For example, given freeze quantity 100 and count quantity 40, the inventory adjustment is minus 60. However, if 60 were shipped after the freeze, inventory is already decreased by 60. If you adjust inventory by another -60, this would double count the shipment, so enter a count of 100, not 40.

You can change the count as many times as you like, up until you use the Update Inventory action.

The alternative to cycle counting is physical inventory. Regular cycle counting is usually preferred—it allows timely detection and correction of errors, and maintains high levels of inventory accuracy.

Main

Tag Number

The tag number for this physical inventory count. Tag number identifies the site, location, item, lot/serial, and lot reference number counted.

Each physical inventory count tag is assigned a unique tag number, which prints on the tag and is used for recording tag counts. Reports can be selected for ranges of tag numbers.

This number is assigned to the first tag created, then it is incremented by 1. This numbering system prevents duplicate tag numbers.

Site

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is not selected for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set

up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Item

The code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Lot/Serial

The lot/serial number of the inventory counted. This may be blank, if the item is not Lot/Serial number controlled.

If the item is serial number controlled, a separate tag is created for each serial number in stock. The tag count must be for a quantity of one.

The lot/serial number entered must be valid. You can not create lot/serial numbers in inventory functions.

Reference

The lot reference number that was counted.

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

UM

The unit of measure for this item as defined in **Items**.

Inventory Status

The unique identifier for the inventory status code. Inventory status codes:

- Identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference.
- Determine whether specific inventory balances on hand are available for allocation to sales orders or work orders, are considered available by MRP, and are allowed to go negative.
- Restrict particular transactions at specific locations; for example, you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using **Inventory Detail** or the Bulk Edit action in **Inventory Detail** to assign a different status to an item's quantity on hand. The PO Receipt Status field in **Items** assigns a

default inventory status code for purchase order receipts. The WO Receipt Status field in **Items** assigns a default inventory status code to work order receipts.

At least one inventory status code must be defined before you can enter site/item combinations. Set up an initial blank inventory status code that is available and nettable in **Inventory Status**. Then set up other inventory status codes as needed.

Item Type

The code used to categorize similar items. Product line, group, and type all categorize items.

Item Group and Item Type can be used to subdivide product lines or create categories that cross product lines, providing an entirely different view of your items. You can use both Item Group and Item Type to process and report sales and planning information, and to update product costs.

Most item and inventory reports can be selected by group and type. Selective Materials Plan and Selective Distribution Plan can be run by item group and type.

You can use Item Type, but not Item Group, to select items for cycle counting. Items are often grouped based on similar characteristics, such as method of manufacture. In this case, you can use group or type to identify manufactured items with similar setups or routings. Then you can release planned orders for these items at the same time.

You can also assign group or type codes to correspond with the level in the product structure where the component item appears. During planning, you can then check plans level by level, similar to the way Material Requirements Planning does.

Item Group

The code used to categorize similar items. Product line, group, and type all categorize items.

Item Group and Item Type can be used to subdivide product lines or create categories that cross product lines, providing an entirely different view of your items. You can use both Item Group and Item Type to process and report sales and planning information, and to update product costs.

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type to identify manufactured items with similar setups or routings. Then you can release planned orders for these items at the same time.

You can also assign group or type codes to correspond with the level in the product structure where the component item appears. During planning, you can then check plans level by level, similar to the way Material Requirements Planning does.

Product Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product Lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using **Product Lines**.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

ABC Class

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as Inventory Valuations, can be selected for ranges of ABC classes.

Item Status

The code identifying the status of an item in the product lifecycle.

Set up item status codes in **Item Status Codes**. If no codes are defined, this field is not validated.

This field can be used to identify the engineering status of an item, such as A (active), I (inactive), E (engineering design), P (prototype), or O (obsolete).

Each status code can specify one or more restricted transactions. For example, you can use a status code for obsolete items to prevent an item from being issued to a work order. Before starting an

inventory transaction, the system verifies if the item status permits the transaction.

The item status does not restrict system-required transactions such as CST-ADJ, ISS-CHL, and RCT-CHL, even if you list them as restricted for an item status code. To restrict these transactions, use menu security on the functions that create them.

Item Location Type

The code identifying the type of location where this item is stored.

This value is used as the default for all sites. Set up site-specific values in **Items** > Site Inventory Exceptions panel.

A type code can be assigned to each location in **Locations**. When an item is received, transferred, or counted using a cycle count or tag count, the system verifies that the location type matches the location type associated with the item. If not, an error displays and the transaction cannot be processed.

Type codes can be used for items with special storage requirements, such as temperature or humidity. You can describe the exact requirements using master comments associated with the item.

Count

Quantity Counted

Enter the quantity counted for this item at this site and location. Only the items with the specified lot/serial and lot reference number are included in this count.

The Update Inventory action uses the count quantity (initial or recount) to update inventory. When the quantity counted differs from the frozen quantity on hand, the quantity on hand is updated by the difference.

For example, if the frozen quantity is 100 and you counted 95, the quantity on hand for the item is decreased by 5.

The system does not replace the item quantity on hand with the count quantity, it adds or subtracts the difference between the frozen and count quantities. If any issues or receipts have been processed since the quantity was frozen, the count quantity must reflect this amount.

Using the previous example above, if the difference of 5 was a result of a sales order shipment, the count quantity would have to be recorded as 100 (not 95). Otherwise you will count the issue twice, ending up with an inventory balance of 90 instead of 95.

It is usually better to suspend operations during a physical inventory. If you cannot, keep a manual record of any activities and make sure that counts are adjusted to reflect them.

Count UM

The unit of measure that this count quantity is expressed in.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Count Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

Counted By

Enter the code used to identify the person who counted this item.

This field is validated against predefined values entered in **Generalized Codes**, if any.

This field is for reference only and may appear on some selected reports and inquiries.

Date Counted

Enter the date when this tag was counted. Use either the date the tag was counted, or the date the count was entered into the system. Be sure you are consistent.

This field is for reference only and may appear on some selected reports and inquiries.

Remarks

Optionally, enter remarks associated with this tag.

Remarks may be entered when tag counts are recorded, usually to identify unusual situations or problems. Remarks can also be entered when a tag status is changed to void, so you can record the reason it was not needed.

This field is for reference only and may appear on some selected reports and inquiries.

Count Item Tags

Follow these steps to enter the initial count for an item tag:

1. In **Inventory Tags**, select the item tag to be counted, then select the Count Tags action.
2. In the Count Tags screen, the system defaults the Tag Number selected from the browse. If necessary, you can use the lookup to select a different tag number. The system auto-fills the rest of the fields in the Main panel with the information on the item tag, such as Site, Location, Item Number, Lot/Serial, and so on.
3. In the Count panel, enter the initial count for the item in the Quantity Counted field.
4. Optionally, specify who made the initial count in the Counted By field.
5. The Date Counted field defaults to today's date. If necessary, you can enter a different date.
6. Optionally, make any necessary changes to the Count UM and Count Conversion fields.
7. Optionally, enter any comments in the Remarks field.
8. Select Submit to save the initial count. When you submit the count, inventory balances and GL transactions are not affected. Inventory

balances are not changed and GL transactions are not created until you use the Update Inventory action.

9. After saving, the system prompts you to enter the count for another tag. Select Count Another to enter the initial count for another tag or select Done to exit.

Count Blank Tags

Follow these steps to enter the initial count for a blank tag:

Note Blank tags are the same as bulk tags.

1. In **Inventory Tags**, select the blank tag to be counted and then select the Count Tags action.
2. In the Count Tags screen, the system defaults the Tag Number selected from the browse. If necessary, you can use the lookup to select a different tag number.
3. Enter the Site, Location, Item, Lot/Serial, and Reference information that is written on the blank tag.
4. In the Count panel, enter the initial count for the item in the Quantity Counted field.
5. Optionally, specify who made the initial count in the Counted By field.
6. The Date Counted field defaults to today's date. If necessary, you can enter a different date.
7. Optionally, make any necessary changes to the Count UM and Count Conversion fields.
8. Optionally, enter any comments in the Remarks field.
9. Select Submit to save the initial count. When you submit the count, inventory balances and GL transactions are not affected. Inventory balances are not changed and GL transactions are not created until you use the Update Inventory action.
10. After saving, the system prompts you to enter the count for another tag. Select Count Another to enter the initial count for another tag or select Done to exit.

Count Pack Tags Action

With the **Count Pack Tags Action** you can count Pack, Item, and Blank tags to complete a physical inventory for serialized inventory. In addition to counting loose inventory using Item tags, you can count the following types of packs:

- Master/Assembly closed pack: When a tag already exists, and the pack is closed physically. When you count the master pack, it is expected that its contents are correct.
- Contents of an open pack or a lower level pack: You can open a master pack and validate its content. The counting can take place at any level. You can record the count using blank tags or the master pack tag.

Note If the pack stage is picked, you cannot count the contents of a pack, and can only count the Master/Assembly closed pack.

- Unexpected packs: An unexpected pack is a pack without a previously created pack tag. You can record unexpected packs on blank tags, or you can leave the Tag Number field blank and a new Tag will be created automatically when the count is submitted. It can have a New, Booked, Pending, Consumed, or Unused stage. When no location detail record exists for the pack, the system creates a location detail record for the pack and links them together.
- Mixed packs: You can count mixed unit packs, mixed master packs, and mixed unit packs containing serialized item units.

  Note If the pack is a mixed pack, you cannot count the contents of a pack, and can only count the Master/Assembly closed pack.
- Loose serialized items: You can use pre-created pack tags to record the counted data of loose serialized items.

Note For missing packs, do not use this action to record a count. When the Update Uncounted Tags action is run, it will set the count quantity to zero for the uncounted tags. Inventory will be updated when the Update Inventory action is run.

Count items with the existing count tags and then record the counts using the Count Pack Tags action. The system accepts all counts and variances, even if they are out of tolerance; unlike cycle counting, physical inventory requires no recount step.

Note The Count Pack Tags action does not affect inventory balances. Inventory balances are not updated until you use the Update Inventory action.

Note The Count Pack Tags action does not affect GL transactions. No GL transactions are created until you use the Update Inventory action.

Review out of tolerance counts in the Physical Inventory Variance browse. Error tolerance levels are the primary control over the physical inventory process. In Inventory Control > Inventory panel, you can enter quantity and value tolerances for each ABC class, calculated based on annual usage (volume) or quantity on hand. Large count variances should be verified and recounts entered prior to using the Update Inventory action.

For loose inventory, as count quantities must reflect inventory transactions processed after inventory balances are frozen, the Update Inventory action does not simply override inventory balances—it adds (or subtracts) the difference between the frozen quantity and the counted quantity.

For example, given freeze quantity 100 and count quantity 40, the inventory adjustment is minus 60. But, if 60 were shipped after the freeze, inventory is already decreased by 60. If you adjust inventory by another -60, this would double count the shipment, so enter a count of 100, not 40.

You can change the count as many times as you like until you use the Update Inventory action.

The alternative to physical inventory is cycle counting. Regular cycle counting is usually preferred—it allows timely detection and correction of errors, and maintains high levels of inventory accuracy.

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the record you work on, including the tag number, site with description, location with description, and tag type. These fields are read-only and remain visible when scrolling down the page.

Main Panel

The fields are available and populated according to the tag entered:

Tag Number

The Tag Number will default from the row selected in the Inventory Tags browse. In the lookup, you can enter or select a different Tag Number. If a pack being counted does not have a tag, you can blank this field and a new tag is created automatically.

Serial

For Pack Tags, the serial defaults from the Pack Tag. You can enter or select a different serial if required. For Blank Tags, enter the serial being counted. If an external serial is entered, the system matches and replaces it with the internal serial.

Site

For Pack Tags and Item Tags, Site automatically populates from Tag. For Blank Tags, if a serial is entered, the Site will default from the serial entered, and can be modified if necessary. If you are counting a loose item, enter Site.

Location

For Pack Tags and Item Tags, Location will automatically populate from Tag. For Blank Tags, if a serial is entered, Location will default from the serial entered, and can be modified if necessary. If you are counting a loose item, enter Location.

Item

For Pack Tags and Item Tags, Item will automatically populate from Tag.

For Blank Tags, if a serial is entered, Item will default from the serial entered. If you count a loose item, enter Item.

Lot/Serial

For Pack Tags and Item Tags, the Lot/Serial automatically populate from Tag.

For Blank Tags, if a serial is entered, the Lot/Serial default from the serial entered. If you count a loose item, enter Lot/Serial.

Reference

For Pack Tags and Item Tags, Reference automatically populates from Tag.

For Blank Tags, if a serial is entered, Reference defaults from the serial entered. If you count a loose item, enter Reference.

UM

The unit of measure automatically populates as defined in **Items**.

Inventory Status

Inventory Status the Item being counted populates automatically.

Item Type

Item Type automatically populates as defined in Items.

Item Group

Item Group automatically populates as defined in Items.

Product Line

Product Line automatically populates as defined in Items.

ABC Class

ABC Class automatically populates as defined in Items.

Item Status

Item Status automatically populates as defined in Items.

Item Location Type

Item Location Type automatically populates as defined in Items.

Count Panel

Counted By

Optionally, enter the code used to identify the person who counted this item. Defaults to the current employee logged in.

Date Counted

The Date Counted field defaults to today's date. If necessary, enter a different date.

Remarks

Optionally, enter any comments in the Remarks field.

Count Grid

The fields in the Count grid are available and populated according to the type or tag and stage of the serial entered:

If the tag selected is Item Tag, perform the following steps:

- To count the loose inventory, select the Count checkbox.
- If necessary, you can modify the Item, Quantity Counted, Lot/Serial, and/or Reference fields.

If the tag selected is a Pack Tag, and the serial is for an Active or Picked homogeneous unit pack perform the following steps:

- To count the serial, select the Count checkbox .
- If necessary, you can modify the Item, Quantity Counted, Lot/Serial, and/or Reference fields.

If the tag selected is Pack Tag, and the serial is for a mixed unit pack, perform the following steps:

- The unit pack is displayed in the top level, and the inventory is displayed in the next level.
- The count checkbox is enabled only for the unit pack (top level), and is selected automatically.
- You cannot count the lower level of a mixed unit pack. You can only count the entire mixed unit pack.

If the tag selected is Pack Tag, and the serial being counted is Active or Picked Serialized Item Unit, perform the following steps:

- To count the serial, select the Count checkbox .
- If necessary, you can modify the Item, Lot/Serial, and/or Reference fields.

If the tag selected is Pack Tag, and the serial being counted is an Active or Picked Master/assembly Pack, perform the following steps:

- The Count checkbox for the top levelis selected automatically.
- If you count the entire Master/assembly pack, keep the Count checkbox checked for the top level.
- If you count one or more child packs, select the Count checkbox for the row(s) for the child packs that are being counted.

- For homogeneous unit packs, you can update the Item, Quantity Counted, Lot/Serial, and Reference fields.
- For serialized item units, you can update the Item, Lot/Serial, and Reference fields. The Quantity Counted field is defaulted to 1.0, and is read only.
- You cannot count child packs if the master pack stage is Picked, or if the pack is a mixed pack. You can only count the entire Master/assembly pack for these types of packs.

  Note If you select the Count checkbox for a lower-level record, a confirmation box pops up notifying that when counting an open master pack, all lower-level packs in the open master pack must be counted, the user must select Continue or Cancel. If the user selects Continue, if the top level Count checkbox was checked, it is unchecked automatically .

  Note If you count a lower level pack, select the Count checkbox for all lower level packs that are being counted. Any lower level packs that do not have the Count checkbox checked are considered missing and the stage is changed to Inv Adjust when the Update Inventory action is run.

While performing the count, if you find packs with stages other than Active and Picked that need to be counted, use blank tags to record the counts.

To enter the initial count, perform the following steps :

1. In **Inventory Tags**, select the tag to be counted and then select the Count Pack Tags action.
2. In the Count Pack Tags screen, the system defaults to the Tag Number selected from the browse. If necessary, use the lookup to select a different tag number.
3. Enter or edit the required information in the Main and Count panel according to the type of tag.
4. To count and enter/edit the information in the count grid according to the type of tag, select the Count checkbox . For more information on the editable information for the corresponding tag type and status, see Count Grid. on page 2863
5. To save the initial count, select Submit . When you submit the count, inventory balances and GL transactions are not affected. Inventory balances are not changed and GL transactions are not created until you use the Update Inventory action.
6. After saving, the system prompts you to enter the count for another tag. To enter the initial count for another tag, select Count Another or select Done to exit.

Note If the pack/tag submitted was previously counted, the system displays a notification asking if you want to override the prior count.

Recount Tags Action

While Recount Tags is not a required step in the physical inventory process, this action can be used to recount any out of tolerance items identified in the **Physical Inventory Variance** browse.

An initial count must be performed before a recount can be entered; otherwise, the system displays an error.

Similar to the Count Tag action, the system accepts recounts and variances, even if they are out of tolerance.

- The Recount Tags action does not affect inventory balances. Inventory balances are not changed until you use the Update Inventory action.
- The Recount Tags action does not affect GL transactions. No GL transactions are created until you use the Update Inventory action.

Main

Tag Number

The tag number for this physical inventory count. Tag number identifies the site, location, item, lot/serial, and lot reference number counted.

Each physical inventory count tag is assigned a unique tag number, which prints on the tag and is used for recording tag counts. Reports can be selected for ranges of tag numbers.

This number is assigned to the first tag created, then it is incremented by 1. This numbering system prevents duplicate tag numbers.

Site

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Item

The code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Lot/Serial

The lot/serial number of the inventory counted. This may be blank, if the item is not Lot/Serial number controlled.

If the item is serial number controlled, a separate tag is created for each serial number in stock. The tag count must be for a quantity of one.

The lot/serial number entered must be valid. You can not create lot/serial numbers in inventory functions.

Reference

The lot reference number that was counted.

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

UM

The unit of measure for this item as defined in **Items**.

Inventory Status

The unique identifier for the inventory status code. Inventory status codes:

- Identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference.
- Determine whether specific inventory balances on hand are available for allocation to sales orders or work orders, are considered available by MRP, and are allowed to go negative.
- Restrict particular transactions at specific locations; for example, you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using **Inventory Detail** or the Bulk Edit action in the **Inventory Detail** to assign a different status to an item's quantity on hand. The PO Receipt Status field in **Items** assigns a default inventory status code for purchase order receipts. The WO Receipt Status field in **Items** assigns a default inventory status code to work order receipts.

At least one inventory status code must be defined before you can enter site/item combinations. Set up an initial blank inventory status code that is available and nettable in **Inventory Status**. Then set up other inventory status codes as needed.

Item Type

The code used to categorize similar items. Product line, group, and type all categorize items.

Item Group and Item Type can be used to subdivide product lines or create categories that cross product lines, providing an entirely different view of your items. You can use both Item Group and Item Type to process and report sales and planning information, and to update product costs.

Most item and inventory reports can be selected by group and type. Selective Materials Plan and Selective Distribution Plan can be run by item group and type.

You can use Item Type, but not Item Group, to select items for cycle counting. Items are often grouped based on similar characteristics, such as method of manufacture. In this case, you can use group or type to identify manufactured items with similar setups or routings. Then you can release planned orders for these items at the same time.

You can also assign group or type codes to correspond with the level in the product structure where the component item appears. During planning, you can then check plans level by level, similar to the way Material Requirements Planning does.

Item Group

The code used to categorize similar items. Product line, group, and type all categorize items.

Item Group and Item Type can be used to subdivide product lines or create categories that cross product lines, providing an entirely different view of your items. You can use both Item Group and Item Type to process and report sales and planning information, and to update product costs.

Most item and inventory reports can be selected by group and type. Selective Materials Plan and Selective Distribution Plan can be run by item group and type.

You can use Item Type, but not Item Group, to select items for cycle counting. Items are often grouped based on similar characteristics, such as method of manufacture. In this case, you can use group or type to identify manufactured items with similar setups or routings. Then you can release planned orders for these items at the same time.

You can also assign group or type codes to correspond with the level in the product structure where the component item appears. During planning, you can then check plans level by level, similar to the way Material Requirements Planning does.

Product Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product Lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using **Product Lines**.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

ABC Class

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter

physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as Inventory Valuations, can be selected for ranges of ABC classes.

Item Status

The code identifying the status of an item in the product lifecycle.

Set up item status codes in **Item Status Codes**. If no codes are defined, this field is not validated.

This field can be used to identify the engineering status of an item, such as A (active), I (inactive), E (engineering design), P (prototype), or O (obsolete).

Each status code can specify one or more restricted transactions. For example, you can use a status code for obsolete items to prevent an item from being issued to a work order. Before starting an inventory transaction, the system verifies if the item status permits the transaction.

The item status does not restrict system-required transactions such as CST-ADJ, ISS-CHL, and RCT-CHL, even if you list them as restricted for an item status code. To restrict these transactions, use menu security on the functions that create them.

Item Location Type

The code identifying the type of location where this item is stored.

This value is used as the default for all sites. Set up site-specific values in **Items** > Site Inventory Exceptions panel.

A type code can be assigned to each location in **Locations**. When an item is received, transferred, or counted using a cycle count or tag count, the system verifies that the location type matches the location type associated with the item. If not, an error displays and the transaction cannot be processed.

Type codes can be used for items with special storage requirements, such as temperature or humidity. You can describe the exact requirements using master comments associated with the item.

Recount

Quantity Recounted

Enter the quantity counted for this item at this site and location. Only the items with the specified lot/serial and lot reference number are included in this count.

The Update Inventory action uses the count quantity (initial or recount) to update inventory. When the quantity counted differs from the frozen quantity on hand, the quantity on hand is updated by the difference.

For example, if the frozen quantity is 100 and you counted 95, the quantity on hand for the item is decreased by 5.

The system does not replace the item quantity on hand with the count quantity, it adds or subtracts the difference between the frozen and count quantities. If any issues or receipts have been processed since the quantity was frozen, the count quantity must reflect this amount.

Using the previous example above, if the difference of 5 was a result of a sales order shipment, the count quantity would have to be recorded as 100 (not 95). Otherwise you will count the issue twice, ending up with an inventory balance of 90 instead of 95.

It is usually better to suspend operations during a physical inventory. If you cannot, keep a manual record of any activities and make sure that counts are adjusted to reflect them.

Recount UM

The unit of measure that this count quantity is expressed in.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in **UM Conversions**. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in **UM Conversions**, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Recount Conversion

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the

item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

The default is 1.0000.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

For example, the item is held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

The system uses item unit of measure for all planning and inventory reporting.

All inventory transactions can specify an alternate unit of measure. Conversion factors do not have to be predefined, but predefinition helps minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

Recounted By

Enter the code used to identify the person who counted this item.

This field is validated against predefined values entered in **Generalized Codes**, if any.

This field is for reference only and may appear on some selected reports and inquiries.

Date Recounted

Enter the date when this tag was counted. Use either the date the tag was counted, or the date the count was entered into the system. Be sure you are consistent.

This field is for reference only and may appear on some selected reports and inquiries.

Remarks

Optionally, enter remarks associated with this tag.

Remarks may be entered when tag recounts are recorded, usually to identify unusual situations or problems. Remarks can also be entered when a tag status is changed to void, so you can record the reason it was not needed.

This field is for reference only and may appear on some selected reports and inquiries.

Recount Tags

Follow these steps to enter a recount for an item or blank tag:

1. In **Inventory Tags**, select the item or blank tag to be recounted, then select the Recount Tags action.
2. In the Recount Tags screen, the system defaults the Tag Number selected from the browse. If necessary, you can use the lookup to select a different tag number. The system auto-fills the rest of the fields in the Main panel with the information on the item tag, such as Site, Location, Item Number, Lot/Serial, and so on.

   Note If you are entering a recount for a blank tag, the Site, Location, Item, Lot/Serial, and Reference fields in the Main panel are editable.
3. In the Recount panel, enter the recount quantity for the item in the Quantity Recounted field.
4. Optionally, specify who made the recount in the Recounted By field.
5. The Date Recounted field defaults to today's date. If necessary, you can enter a different date.
6. Optionally, make any necessary changes to the Recount UM and Recount Conversion fields.
7. Optionally, enter any comments in the Remarks field.
8. Select Submit to save the recount. When you submit the recount, inventory balances and GL transactions are not affected. Inventory balances are not changed and GL transactions are not created until you use the Update Inventory action.
9. After saving, the system prompts you to enter the recount for another tag. Select Recount Another to enter the count for another tag or select Done to exit.

Recount Pack Tags Action

Recount Pack Tags is not a required step in the physical inventory process, it can be used to recount any out of tolerance items identified in the Physical Inventory Variance browse.

With Recount Pack Tags Action you can recount Pack, Item, and Blank tags to complete a physical inventory for serialized inventory. In addition to recounting loose inventory using Item tags, you can count the following types of packs:

- Master/Assembly closed pack: When a tag already exists, and the pack is closed physically. When you count the master pack, it is expected that its contents are correct.
- Contents of an open pack or a lower level pack: You can open a master pack and validate its content. The counting can take place at any level. You can record the count using Blank Tags or the Master Pack tTag.

  Note If the pack stage is picked, you cannot count the contents of a pack, and can only count the Master/Assembly closed pack.
- Unexpected packs: An unexpected pack is a pack without a previously created pack tag. You can record unexpected packs on

blank tags, or you can leave the Tag Number field blank and a new Tag will be created automatically when the count is submitted. It can have New, Booked, Pending, Consumed, or Unused stage. When no location detail record exists for the pack, the system creates a location detail record for the pack and links them together.

- Mixed packs: You can count mixed unit packs, mixed master packs, and mixed unit packs containing serialized item units.

  Note If the pack is a mixed pack, you cannot count the contents of a pack, and can only count the Master/Assembly closed pack.

- Loose serialized items: You can use pre-created pack tags to record the counted data of loose serialized items.

  Note For missing packs, do not use this action to record a count. When the "Update Uncounted Tags" action is run, it will set the count quantity to zero for the uncounted tags. Inventory will be updated when the "Update Inventory" action is run.

- The Recount Pack Tags action does not affect inventory balances. Inventory balances are not updated until you use the Update Inventory action.
- The Recount Pack Tags action does not affect GL transactions. No GL transactions are created until you use the Update Inventory action.

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the record you work on, including the tag number, site with Description, Location with description and Tag Type. These fields are read-only and remain visible when scrolling down the page.

Main Panel

The fields are available and populated according to the tag entered:

Tag Number

The tag number for this physical inventory count. Tag number identifies the site, location, item, lot/serial, and lot reference number counted.

The Tag number defaults from the row selected in the Inventory Tags browse. In the lookup, you can enter or select a different tag number. If a pack being counted does not have a tag, you can blank this field and a new tag is created automatically.

Serial

For Pack Tags, the serial will default from the Pack Tag. You can enter or select a different serial if required.

For Blank Tags, enter the serial being counted.

If an external serial is entered, the system matchs and replaces it with the internal serial.

Site

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

For Pack Tags and Item Tags, the Site will automatically populate from the Tag.

For Blank Tags, if a serial is entered, the Site will default from the serial entered, and can be modified if necessary. If you are counting a loose item, enter the Site.

Location

Location codes identify physical locations where inventory is stored.

For Pack Tags and Item Tags, the Location will automatically populate from the Tag.

For Blank Tags, if a serial is entered, the Location will default from the serial entered, and can be modified if necessary. If you are counting a loose item, enter the Location.

Item

The code that identifies an inventory item defined in Items.

For Pack Tags and Item Tags, the Item will automatically populate from the Tag.

For Blank Tags, if a serial is entered, the Item will default from the serial entered. If you are counting a loose item, enter the Item.

Lot/Serial

For Pack Tags and Item Tags, the Lot/Serial will automatically populate from the Tag.

For Blank Tags, if a serial is entered, the Lot/Serial will default from the serial entered. If you are counting a loose item, enter the Lot/Serial.

Reference

The lot reference number that was counted.

For Pack Tags and Item Tags, the Reference will automatically populate from the Tag.

For Blank Tags, if a serial is entered, the Reference will default from the serial entered. If you are counting a loose item, enter the Reference.

UM

The unit of measure for this item as defined in Items. The UM will automatically populate as defined in Items.

Inventory Status

The Inventory Status for the Item being counted will automatically populate.

Item Type

The code used to categorize similar items. Product line, group, and type all categorize items. The Item Type will automatically populate as defined in Items.

Item Group

The code used to categorize similar items. Product line, group, and type all categorize items. The Item Group will automatically populate as defined in Items.

Product Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes. The Product Line will automatically populate as defined in Items.

ABC Class

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The ABC Class will automatically populate as defined in Items.

Item Status

The code identifies the status of an item in the product life cycle. The Item Status will automatically populate as defined in Items.

Item Location Type

The code identifies the type of location where this item is stored. The Item Location Type will automatically populate as defined in Items.

Recount Panel

Recounted By

Optionally, enter the code used to identify the person who counted this item. Defaults to the current employee logged in.

Date Counted

The Date Counted field defaults to today's date. If necessary, enter a different date.

Remarks

Optionally, enter any comments in the Remarks field.

Recount Grid

The fields in the Recount grid are available and populated according to the type or tag and stage of the serial entered:

If the tag selected is an Item Tag, :

- Select the Recount checkbox to count the loose inventory.
- If necessary, you can modify the Item, Quantity Counted, Lot/Serial and/or Reference fields.

If the tag selected is a Pack Tag, and the serial is for an Active or Picked homogeneous unit pack:

- Select the Recount checkbox to count the serial.
- If necessary, you can modify the Item, Quantity Counted, Lot/Serial and/or Reference fields.

If the tag selected is a Pack Tag, and the serial is for a mixed unit pack:

- The unit pack is displayed in the top level, and the inventory is displayed in the next level.
- The Recount checkbox is enabled only for the unit pack (top level), and will be selected automatically.
- You cannot count the lower level of a mixed unit pack. You can only count the entire mixed unit pack.

If the tag selected is a Pack Tag, and the serial being counted is an Active or Picked Serialized Item Unit:

- Select the Recount checkbox to count the serial.
- If necessary, you can modify the Item, Lot/Serial and/or Reference fields.

If the tag selected is a Pack Tag, and the serial being counted is an Active or Picked Master/assembly Pack:

- The Recount checkbox for the top level will be selected automatically.

- If you are recounting the entire Master/assembly pack, keep the Recount checkbox enabled for the top level.
- If you are counting one or more child packs, select the Recount checkbox for the row(s) for the child packs that are being recounted.
    - For homogeneous unit packs, you can update the Item, Quantity Counted, Lot/Serial, and Reference fields.
    - For serialized item units, you can update the Item, Lot/Serial, and Reference fields. The Quantity Recounted field is defaulted to 1.0, and is read only.
    - You cannot recount child packs if the master pack stage is Picked, or if the pack is a mixed pack. You can only recount the entire Master/assembly pack for these types of packs.

      Note If you select the Recount checkbox for a lower-level record, a confirmation box will pop up that says "When recounting an open master pack, all lower-level packs in the open master pack must be recounted", the user must select Continue or Cancel. If the user selects “Continue”, if the top level Recount checkbox was checked, it automatically will be unchecked.

      Note If you recount a lower level pack, you must select the Recount checkbox for all lower level packs that are being counted. Any lower level packs that do not have the Recount checkbox checked will be considered missing and the stage will be changed to Inv Adjust when the **Update Inventory** action is run.

While performing the recount, if you find packs with stages other than Active and Picked that need to be recounted, you can use blank tags to record the recounts.

Follow these steps to enter the recount:

1. Go to **Inventory Tags** browse.
2. Select the needed tag and then select the **Recount Pack Tags** action.
3. In the **Recount Pack Tags** view, the system defaults to the Tag Number selected from the browse. If necessary, use the lookup to select a different tag number.
4. Enter or edit the information of your preference in the Main Panel according to the type of tag. For more information on the editable information for the corresponding tag type, see Main Panel on page 2873.
5. Enter or edit the information on Recount Panel. For more information, see Recount Panel.
6. To save the recount, click **Submit** .
7. After saving, the system prompts you to enter the recount for another tag. To enter the initial count for another tag, select **Recount Another** or select **Done** to exit.

Note If the pack/tag submitted was previously recounted, the system displays a notification asking if you want to override the prior count.

Update Uncounted Tags Action

Tags facilitate the control and monitoring of the physical inventory process. At the end, all tags should be either counted or voided. The Update Uncounted Tags action lists uncounted tags, and, optionally, lets you set the count to zero.

The Update Uncounted Tags action lists tags that have not had any count entered such as unused blank tags that are not needed and should be voided, or item tags for which the count was entered on a blank tag by mistake. If you specify Set Tag Count to Zero, you can enter a count quantity of zero for these tags.

Tags for items that were not counted or that were not found in inventory —leftover tags—are not voided. If you find no such items, enter a count quantity of zero.

A special use for the Update Uncounted Tags action is to employ zero-based inventory (starting with inventory balances at zero). To do this set the item tag counts to zero and then enter the count quantities using bulk tags. To maintain traceability, do not do this for lot/serial controlled items.

You should define menu security for this program to restrict access.

Filter

Tag Number

The tag number for this physical inventory count. Tag number identifies the site, location, item, lot/serial, and lot reference number counted.

Each physical inventory count tag is assigned a unique tag number, which prints on the tag and is used for recording tag counts. Reports can be selected for ranges of tag numbers.

This number is assigned to the first tag created, then it is incremented by 1. This numbering system prevents duplicate tag numbers.

Site

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain,

which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Item Number

The code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Lot/Serial

The lot/serial number of the inventory counted. This may be blank, if the item is not Lot/Serial number controlled.

If the item is serial number controlled, a separate tag is created for each serial number in stock. The tag count must be for a quantity of one.

The lot/serial number entered must be valid. You can not create lot/serial numbers in inventory functions.

Sort Option

Specify the sort option the system uses when displaying data for this report. Enter 1 to sort by site, item, operation, line. Enter 2 to sort by extended cost descending.

Set Tag Count to Zero

The system sets the count quantity of uncounted packs and uncounted lower-level packs to zero (0) when you set the Set Tag Count To Zero filter to Yes. The system generates serial history and marks the packs as missing. The system dismisses them when you use the Update Inventory action.

This is used for processing a zero-based inventory. For example, if you have been using your system for some time, but not the inventory modules, all of your items can have incorrect balances. One way to zero them out is to create tags for all inventory and use this option to set the count to zero. Then do your physical count and enter it using blank tags. After the using the Update Inventory action, your inventory is correct.

Do not use this on items under lot/serial control as you will lose your actual-bill and where-used traceability.

Include Missing Lower Level Pack

The Include Missing Lower Level Pack filter controls whether the system displays missing content of counted packs in the results. Missing content of the counted pack displays at the end of the report when you set the filter to Include Missing Uncounted Lower Packs to Yes.

The system displays the serial ID when the tag is for a pack; the items contained in the pack display, too. When multiple items are contained, the system displays multiple lines with the same tag number and serial ID.

Void Tags Action

Tags facilitate control and monitoring of the physical inventory process. At the end, all tags should be either counted or void.

The Void Tags action allows you to void or unvoid tags:

- **Voiding Tags.** To void tags, enter the tag numbers in the From Tag Number and To Tag Number fields and then select the Void option. All tags in the specified number range are set to Void. The Update Inventory action does not consider any voided tags.
- **Unvoiding Tags.** To unvoid tags, enter the voided tag numbers in the From Tag Number and To Tag Number fields and then make sure the Void option was not selected. The system reverses the effect of a previous void and the status of all tags in the specified number range is reset to blank.

To view the tags that should be voided, use the Update Uncounted Tags action. This action lists the tags that have not had any count entered, such as unused blank tags that are not needed and should be voided or item tags where the count was entered on a blank tag by mistake. In those cases, use the Void Tag action to void those tags.

You should not void tags for items that were not counted or were not found in inventory. If an item was not found in inventory, you should enter a count quantity of zero instead of voiding the tag.

Posted tags cannot be voided.

You should define menu security for this program to restrict access.

Main

From Tag Number

Enter the first tag number for this function to consider. The tag number must be unique.

To Tag Number

Enter the last tag number for this function to consider. Leave blank to include all numbers through the last.

Void

Indicates whether to set the tag status to Void. By default, this option is selected.

- **Selected (default).** If this option is selected, the status of all tags in the specified range of tags is set to Void. Void tags are not considered by the **Inventory Tags** > Update Inventory action.
- **Not Selected.** If this option is not selected, the system reverses the effect of a previous void. The status of all tags in the specified number range is reset to blank. Counts entered for these tags are considered by the **Inventory Tags** > Update Inventory action.

There is no audit trail maintained for this function. You should define menu security for this program to restrict access.

Remarks

Optional remarks associated with this tag. The remarks that are entered are assigned to the range of tag numbers entered in the From/To Tag Number fields.

This field is for reference only and may appear on some selected reports and inquiries.

Remarks may be entered when tag counts are recorded, usually to identify unusual situations or problems. Remarks can also be entered when a tag status is changed to void, so you can record the reason it was not needed.

Update Inventory Action

When all tags are accounted for and count results are satisfactory, use the Update Inventory action to update quantity-on-hand balances.

Set Update to No to print changes for review before updating the system. SIMULATION appears at the top of each page, along with the header information. Set Update to Yes to update the database.

This transaction may take some time to process. Submit it in batch to free up your system for other tasks.

Managing Tag Counts

The Update Inventory action adds (or subtracts) the difference between the frozen and the counted inventory item quantity, rather than overriding inventory balances with the counted amount.

You should establish procedures to prevent inventory transactions between the time you use the Freeze Inventory and the Update Inventory actions. Otherwise, incorrect inventory balances may occur.

For example, the freeze quantity for an item is 100 and the count quantity 40. The inventory adjustment is minus 60. However, if 60 items are shipped after the freeze, inventory is already decreased by 60. If you adjust inventory by another -60, the shipment is double counted.

The **Physical Variance Report** displays a message indicating when inventory transactions have occurred after the freeze/tag creation date. However, the report shows only the variance between an item's freeze balance and the tag count. You can also view the variances in the **Physical Inventory Variance** browse.

If you choose to ignore this warning, you should maintain a paper record of all transactions and then cycle count the affected locations after using the Update Inventory action.

Transaction History

A complete audit trail of inventory transactions is maintained in transaction history (tr_hist). Review these using **Inventory Transactions**. A transaction number and a transaction type identify each transaction. The transaction type generated by this program is TAG-CNT.

General Ledger (GL) Effects

GL transactions are stored in the unposted transaction table until they are posted. Review these transactions using the **Unposted Transaction** browse. Review and delete transactions created in modules other than GL using GL Transaction Delete/Archive.

- Debits or credits the Inventory account defined in **Product Lines** > Inventory Accounts panel for the product line, site, and location.

- Credits or debits the Inventory Discrepancy account defined in **Product Lines** > Inventory Accounts panel for the product line, site, and location.

Consigned Inventory

If you are using the optional Customer or Supplier Consignment Inventory functionality, procedurally determine how to manage consigned inventory during physical inventory.

- If you are using Customer Consignment Inventory, you typically exclude consigned inventory during inventory counts because it is not physically present at your site.
- If you are using Supplier Consignment Inventory, you typically include consigned inventory in inventory counts.

When you exclude consigned inventory, any inventory adjustments affect non-consigned inventory only.

If you choose to include supplier consigned inventory or to do a count of supplier or customer consigned inventory only, the system uses special transactions when adjusting inventory downward.

- Downward adjustments to customer consigned inventory create the standard count transaction (TAG-CNT) and a CN-CNT transaction. The CN-CNT transaction is used to reverse the inventory effects of the TAG-CNT transaction. This is followed by an ISS-SO and CN-USE to track the inventory changes and transfer ownership of the material.
- When consigned and non-consigned supplier inventory are combined in a location, the system checks the value of Use Consigned First in **Inventory Control** > Supplier Consignment panel to determine how to manage adjustments. Downward adjustments to supplier consigned inventory create the standard TAG-CNT transaction, followed by RCT-PO and CN-ISS transactions to track the inventory changes and transfer ownership of material.

Whenever the system updates consigned inventory, appropriate updates are also made to corresponding consignment accounts.

Adjustments that increase the quantity use the standard TAG-CNT transactions. Surplus is always added to non-consigned inventory. In both modules, you can use the appropriate Consignment Inventory Adjustment program to associate surplus inventory with a consignment order, if needed.

Corrections

Change counts in Tag Recount Entry any time before Inventory Balance Update is run. Then, make adjustments using the actions on the **Cycle Counts** browse.

Filter

Site

The code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Location codes identify physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in **Locations** before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they sort as 1, 10, 2. Most inventory reports, in particular picklists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Product Line

Product line codes identify major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product Lines:

- Group products by similarities of manufacture or application.

- Identify families of products that can be planned in aggregate using **Product Lines**.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Alternatively, you can use product lines to group items by application, creating product lines for raw materials, finished goods, and packaging.

Item Number

The code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

ABC Class

A blank in this field selects all records in the item range specified, regardless of the ABC code. Enter A, B, or C to select only those items with the specified ABC code. This field is validated against generalized codes.

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as Inventory Valuations, can be selected for ranges of ABC classes.

Update

Enter Yes to run this program in Update mode and to change records in the database.

Enter No to run this program in Report-only mode, without updating the database. A report is printed for review with SIMULATION displayed at the top of each page.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

When inventory balances are adjusted by a physical count, a general ledger transaction is processed increasing or decreasing inventory value and recording an inventory discrepancy. The effective date determines when the general ledger transaction affects general ledger balances. Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

Sort Option

Specify the sort option the system uses when displaying data for this report. Enter 1 to sort by site, item, operation, line. Enter 2 to sort by extended cost descending.

Inventory Status

In **Inventory Status**, users can:

- Assign inventory status codes to individual inventory locations in the**Sites** and **Locations** screens.
- Optionally assign default inventory status codes to individual item numbers using **Items**.

Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and production order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

You must associate an inventory status code with every site or location you set up. You may want to create a blank inventory status code to use for most situations. This status code should be both nettable and available, with no restricted transactions.

You should also set up inventory status codes to define inventory attributes at special locations such as scrap and inspection locations. Generally, scrap inventory should not be available or nettable. Inspection inventory should be nettable.

Each site's inventory status defaults to any locations you add to that site. You can modify inventory status for individual locations as needed.

Item quantities received into inventory are automatically assigned an inventory status based on their associated settings in **Items**, **Inventory Detail**, or the site or location into which they are received. You can use **Inventory Detail**or the Bulk Edit action in **Inventory Detail** to assign a different status to an item's quantity on hand.

Main

Inventory Status

The unique identifier for the inventory status code. Inventory status codes:

- Identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference.
- Determine whether specific inventory balances on hand are available for allocation to sales orders or work orders, are considered available by MRP, and are allowed to go negative.

- Restrict particular transactions at specific locations; for example, you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using **Inventory Detail** or the Bulk Edit action in **Inventory Detail** to assign a different status to an item's quantity on hand. The PO Receipt Status field in **Items** assigns a default inventory status code for purchase order receipts. The WO Receipt Status field in **Items** assigns a default inventory status code to work order receipts.

At least one inventory status code must be defined before you can enter site/item combinations. Set up an initial blank inventory status code that is available and nettable in **Inventory Status**. Then set up other inventory status codes as needed.

Description

The description of the inventory status code.

Available

Indicates whether inventory balances with this status code are available for allocations to sales orders and production orders. This does not affect the available-to-promise calculations.

Select this option so that on hand inventory balances with this status are considered to be available. When allocating inventory, the system calculates the quantity available to allocate as the total quantity on hand at all inventory locations with the Available option selected. Any locations marked with the Available option not selected are not considered by this calculation.

Most inventory will be assigned available status codes. Unavailable inventory status codes identify inventory not to be shipped to customers or used in the manufacturing process at the current time—inventory waiting for inspection or defective material to be reworked.

Nettable

Indicates whether MRP considers inventory balances with this status code as quantity on hand.

During the planning process, MRP calculates the net quantity on hand as the sum of the quantity in all locations with the Nettable option selected. Locations with the Nettable option cleared are not considered by this calculation.

Most inventory will be assigned nettable status codes. Non-nettable inventory status codes identify inventory not to be shipped to customers or used in the manufacturing process—inventory which is defective or reserved for some other use.

For multisite implementations, any in-transit locations must have the Nettable option cleared; otherwise MRP will use supply in that location

twice, once from the scheduled receipt, then from the nettable quantity in the location.

Set up inspection locations as nettable since you do not want MRP to plan to order more when you already have inventory on hand. Inspection locations are controlled by restricting issue transactions.

Overissue

Indicates whether inventory balances with this status code are allowed to go negative.

Select this option so that inventory may be issued from a location even if that issue results in a negative balance on hand. For example, if this option is selected and there are only 5 items in stock at a particular location, the system would allow you to issue a quantity of 7, resulting in an on hand balance of -2. To prevent this, do not select the Overissue option. When this option is not selected, overissues in all Inventory transactions are stopped. However, in the case of 2 or more users simultaneously committing transactions to ship the same stock, it is possible that due to this close timing the balance will go negative despite this option not being selected.

When to Allow Overissues

If the inventory is physically available, the operator should be able to record the issue transaction, even if the data entry for inventory receipt is delayed, as often happens when information is batched for data entry.

In a well-controlled stockroom, most items can safely be allowed overissues. As transactions are processed, balances may temporarily be driven negative, but will be resolved when all transactions are entered.

When Not to Allow Overissues

In a regulatory environment or where items are lot/serial controlled, you may not want to select the Overissue option and instead develop data entry procedures which assure the timely entry of inventory transactions.

The Overissue option should never be selected when using Average Costing.

Restricted Transactions

You can use inventory status codes to control and manage how items, sites, and locations are used in the system.

You can specify whether particular kinds of transactions can occur for individual items. For example, if you typically inspect purchased items, you can prevent items from being issued before they are inspected. To do this, use the PO Receipt Status field in **Items** to assign a status to items received on a purchase order that restricts inventory transfers.

You can determine for sites and locations whether you can initiate particular transactions that affect them. For example, assign a scrap location an inventory status code that restricts issues.

You can also indicate if particular transactions can be initiated using CIM load functions for items, sites, and locations.

To provide more complete control of system activity, you can restrict transactions that are not strictly inventory transactions. These transaction types are used exclusively to prevent or allow actions in the system. However, since no inventory movement occurs, a transaction history record is not created. These types are listed below:

Transaction Type	**Description**
ADD-PO	Order item on a purchase order
ADD-PS	Create a product structure relationship
ADD-RE	Create a repetitive schedule
ADD-RMA	Add an item to a receipt line on a service/ support RMA
ADD-SEO	Order an item on a material order
ADD-SO	Order an item on a sales order
ADD-SQ	Order an item on a sales quote
ADD-WO	Create a work order for an item
INC-PS	Create a product structure relationship by incorporating a PCO
ISS-RMA	Receive an item into inventory on a service/ support RMA

Not every inventory transaction can be restricted. The transactions that you can restrict for an inventory status code are:

CUM-RRES	ISS-RV	RCT-RS
CUM-SRES	ISS-SO	RCT-SOR
CYC-CNT	ISS-TR	RCT-TR
CYC-ERR	ISS-UNP	RCT-UNP
CYC-RCNT	ISS-WO	RCT-WO
ISS-DO	RCT-DO	RJCT-WO
ISS-GIT	RCT-GIT	WIP-ADJ
ISS-PRV	RCT-PO	

The following transactions are required by the system. You cannot prevent them from occurring, even when you identify them as restricted for an inventory status code.

CST-ADJ	ORD-SEO
CUM-RADJ	PLCG-ADJ
CUM-SADJ	RCT-CHL
ISS-CHL	RCT-FAS
ISS-FAS	TAG-CNT
ORD-PO	WO-CLOSE
ORD-SO	

If you need to restrict these transactions, set up menu security for the functions that generate them.

When you process an inventory transaction, the system checks the inventory status of the affected item and site or location to verify that the transaction is not restricted. If it is, an error message displays and you cannot proceed.

Booking History

You cannot restrict the ORD-SO, ORD-SEO, or ORD-PO transactions using status codes. Whether these transactions are created in various functions is determined by the following control settings:

- For sales transactions (ORD-SO), Keep Booking History in **Sales Control**.
- For RMAs (ORD-SO), Keep Booking History in **Service Control** > Return to Supplier panel.
- For contracts (ORD-SO), Keep Contract History in **Service Control** > Service Accounting panel.
- For material orders (ORD-SEO), Keep Booking History in **Service Control** > Material Orders panel.
- For purchase orders (ORD-PO), Keep Booking History in **Purchasing Control**.

Use the different ADD transactions to prevent items with a given inventory status from being added to orders as issue or receipt lines.

- Restrict the ADD-SO transaction for sales orders, contracts, and RMA issue lines.
- Restrict ADD-RMA for RMA receipt lines.
- Restrict ADD-SEO for material orders.

- Restrict ADD-PO for purchase orders.

Restricting these transactions does not affect shipping or receipts.

RMA Transactions

Use the ISS-SO transactions to restrict shipping for sales order lines as well as RMA issue lines. This restriction is checked by sales order shipping functions, as well as shipments processed in RMAs and RMA Shipments.

Use the ISS-RMA transaction to restrict RMA receipt lines only. This restriction is checked during receipts processed in both RMAs and RMA Receipts.

The ISS-RMA transaction is never written to transaction history. The ISS-SO transaction is the only transaction type written to transaction history when sales order or RMA shipments or receipts are processed.

Using the ISS-RMA transaction lets you selectively restrict locations against shipping (ISS-SO), while still letting you receive RMA material into that location (ISS-RMA not restricted). This prevents shipment from a location where potentially discrepant material is stored.

See the *QAD Production Orders User Guide*, *QAD Master Data User Guide*, and *QAD Manufacturing User Guide* for more information on valid transaction types, which transaction types can be restricted, and how to restrict transactions for RMAs.

Selected

Select the checkbox to restrict this inventory transaction for on-hand balances with this inventory status code.

Restricted Transaction

The code identifying the restricted inventory transactions for on-hand balances with this inventory status code.

When you process an inventory transaction, the system checks the inventory status of the affected item and site or location to verify that the transaction is not restricted. If it is, an error message displays and you cannot proceed.

For example, you can create an inventory status that restricts the ISS-WO transaction and assign it to an inspection location. If a user tries to issue a component to a production order from this location, an error displays. To proceed, you must change the location status or transfer the item to another location.

When you define inventory statuses for inspection and scrap locations, restrict both ISS-WO and ISS-SO. This prevents items in these

locations from being issued to production orders or shipped to customers.

ISS-SO restricts both sales order shipments and RMA issues. Use ISS-RMA to restrict RMA receipts.

You typically allow ISS-PRV and ISS-TR for items in inspection, since you want to be able to return them to the supplier or transfer them to a different location.

Some transactions are required by the system. You cannot prevent them from occurring, even if you list them as restricted.

See the *QAD Production Orders User Guide*, *QAD Master Data User Guide*, and *QAD Manufacturing User Guide* for more information on valid transaction types, which transaction types can be restricted, and how to restrict transactions for RMAs.

Description

The description of the restricted inventory transaction.

Creating Inventory Status Codes

Follow these steps to create an inventory status code:

1. In **Inventory Status**, select New.
2. In the Main panel, enter the status code in the Inventory Status field. The inventory status code must be unique.
3. Optionally, enter a description of the inventory status code.
4. Set the Available, Nettable, and Overissue options as needed.
5. In the Restricted Transactions panel, specify the restricted inventory transactions for on-hand balances with this inventory status code.
6. After entering all the relevant information, select Save.

Inventory Control

Compliance

Compliance Active

Select the Compliance Active check box to activate work order attributes (including batch numbers), expired inventory transactions, and controlled substances. If this setting is not selected, only lot control features are active, based on the setting of Lot Control Level.

Modify Component Issue

Select the Modify Component Issue check box to issue any component to a work order. Do not select this check box to restrict items issued to a work order to those listed on the work order bill of material (BOM) or valid substitute items.

Note Set up substitute items in Item Substitutions.

Modify Co/By Product Receipts

Select the Modify Co/By Product Receipts check box to allow any item to be received as an unplanned receipt. Do not select this check box to require all receipts to be valid items or substitute items for a co-product or by-product in a joint work order set.

Compliance Active

Select the Compliance Active check box to activate work order attributes (including batch numbers), expired inventory transactions, and controlled substances. If this setting is not selected, only lot control features are active, based on the setting of Lot Control Level.

Lot Control Level

Select one of the following settings to set the rules for how lot/serial numbers are specified for an item:

- **0**. Allow Duplicate Lot Numbers. Any lot number can be specified for any item number.
- **1**. Unique Lot/Serial per Item Number. You cannot assign an item on an order a lot or serial number that is already used by that item on another order. For example, if work order WO1 assigns item A a lot number of 10, no other purchase or work order can assign lot number 10 to item A.
- **2**. Unique Lot/Serial Numbers. You cannot assign an item a lot or serial number that is already used by another item in inventory. For example, if item A has a lot number of 10, item B cannot be assigned a lot number of 10. Rework work orders, expense work orders, and distribution orders do not have this restriction.

Single Lot per Purchase Order Receipt

Indicate whether purchase order receipts are restricted to a single lot. Select this check box to require a new lot number for each purchase order receipt. Do not select this check box if multiple receipts for a purchase order can use the same lot number.

This setting determines the default for the Single Lot field of Purchase Order Receipts (5.13.1), where it can be changed as needed. This setting also affects Returns to Supplier (RTS) in the Service/Support Management module. When this check box is selected and you have received an item lot, you cannot receive it again on an RTS.

Note The Single Lot settings have no effect when Lot Control Level is set to 0.

Single Lot per Work Order Receipt

Indicate whether work order receipts are restricted to a single lot. Select this check box to require a new lot number for each work order receipt. Do not select this check box if multiple receipts for a work order can use the same lot number.

This setting determines the default for the Single Lot field of Work Order Receipts (16.11) and Work Order Receipt Backflush (16.12), where it can be changed as needed.

Note The Single Lot settings have no effect when Lot Control Level is set to 0.

Single Lot per Repetitive Receipt

Indicate whether end-item receipts in repetitive transactions are restricted to a single lot. Select this check box to require a new lot number for each repetitive receipt. Do not select this check box if multiple receipts for a repetitive order can use the same lot number.

This setting determines the default for the Single Lot field of Repetitive Labor Transaction (18.14), as well as Backflush Transaction (18.22.13) and Move Transaction (18.22.19) in Advanced Repetitive.

Note The Single Lot settings have no effect when Lot Control Level is set to 0.

Customer Consignment

Use Customer Consignment panel to activate the Customer Consignment Inventory module. All values default to Consignment Ship-To & Items Control, where you can modify them for specific combinations of ship-to addresses and items.

Use Customer Consignment

Select the Use Customer Consignment check box to activate the Customer Consignment Inventory module and use Customer

Consignment Inventory programs. This is the single place where you can activate system-wide customer consignment control settings.

Use the Customer Consignment Inventory module to plan, order, ship, track, and report customer-consigned inventory while deferring invoice and AR transactions. This module extends the sales order process by providing new transactions to ship inventory and identify it as in-transit or consigned. These transactions also delay the standard AR booking process until inventory is consumed. When the customer notifies the supplier of usage, standard invoice transactions occur.

Customer Consignment Inventory lets suppliers continue to track inventory, even after it has been shipped and while it resides at a customer facility. This method requires the customer to notify the supplier that inventory has been used, which completes the transfer of ownership.

Using consigned inventory alleviates the need for the supplier to buy back the excess sent to the customer or remaining at the end of the consignment period. Because the supplier still owns the inventory, any excess is simply returned.

Do not select the Use Customer Consignment check box to use standard sales order programs. If not selected, the system bypasses all consignment screens.

Once you have activated the consignment module, created consigned items, or performed transactions, if you deselect this setting and deactivate the module, the system displays a warning message. Unless all consigned items are consumed, the system warns you that non-invoiced consigned items exist and prompts you to confirm your action.

When the Customer Consignment Inventory module is active, additional fields and frames display for user input during order entry in:

- **Sales Orders**
- **Customer Scheduled Orders**

Customer Consignment Default

Specify the default value for the Consignment field in new sales orders and new customer scheduled orders. When this option is selected, when users create a new sales order or a new customer scheduled order, the Consignment field in the Main panel and on the order lines is selected by default.

Do not select this check box if the majority of shipments are standard orders.

In either case, you can combine lines for both consigned and non-consigned inventory on one order.

Automatic Replenishment

The Automatic Replenishment check box specifies how you want to manage scheduled orders. Select this check box so that the system automatically adds a planned replacement line to the active required ship schedule based on the last quantity consumed. The replenishment line is added to the next open date on the schedule for a quantity matching the quantity consumed.

If this check box is not selected, a replenishment line is not added to the required ship schedule. New schedules are determined using Required Ship Schedule Update.

The value entered here defaults to records defined in Consignment Ship-To & Item Controls . If control records are not defined, it defaults to **Customer Scheduled Orders**.

Consignment Location

Enter the location representing consigned inventory that resides at the customer facility.

When you enter a value for a consignment location but not for an in-transit location, shipment transfers inventory from the stocking location directly to the location representing the customer facility. When you enter an in-transit value, inventory is transferred from the inventory stocking location to the in-transit location.

Enter only valid locations set up in Locations. This value defaults to Consignment Ship-To & Item Controls, if used. If control records are not defined, it defaults to Sales Orders and **Customer Scheduled Orders**.

Note Assign in-transit and consignment locations an inventory status code with Available and Nettable set to No. Otherwise, items may be used for other orders and MRP considers items in these locations as available to net against open requirements. This understates real demand. Do not use locations defined for customer reserved inventory since this may prevent shipping from occurring.

In-Transit Location

Optionally enter the location that represents consigned inventory that is in-transit between you and your customer.

When you enter a value for a consigned location but not for an in-transit location, shipment transfers inventory from the stocking location directly to the location representing the customer facility. When you enter an in-transit value, inventory is transferred from the inventory stocking location to the in-transit location.

Enter only valid locations set up in Locations. This value defaults to Consignment Ship-To & Item Controls , if used. If control records are not defined, it defaults to **Sales Orders** and **Customer Scheduled Orders**.

Note Assign in-transit and consignment locations an inventory status code with Available and Nettable set to No. Otherwise, items may be used for other orders and MRP considers items in these locations as available to net against open requirements. This understates real demand. Do not use locations defined for customer reserved inventory since this may prevent shipping from occurring.

Maximum Aging Days

Optionally enter the maximum number of days consigned inventory is allowed to reside at or be in-transit to a customer facility.

The default value is 0 (zero), which indicates no scheduled aging deadline exists.

The system automatically adds the number of days entered here to the transit days in **Delivery Transit Times**. It adds this sum to the shipment date in the Ship Allocated action in **Sales Orders**, the Confirm action in **Shippers**, or the Confirm action in **Pre-Shippers** to arrive at a new maximum aging date shown in Aging Inventory Update. The calculated date is used by reports to determine how long inventory has been at the customer facility.

You can extend the maximum aging date as many times as required using Aging Inventory Update or Aging Inventory Batch Update. An extension automatically updates each shipment.

The value entered here defaults to records defined in Consignment Ship-To & Item Controls . If control records are not defined, it defaults to **Sales Orders** and **Customer Scheduled Orders**.

Inventory

Default Site

Enter the site code to use as the default for this domain. This field cannot be blank.

Site codes identify areas where inventory is manufactured or stored, such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

This site code displays as the default on most screens for this domain. You can change it manually as needed.

If you are using linked-site costing, the site used as the source for GL costs at other sites should be specified as the default site. If more than one site is used as a GL cost source site, choose the site you want to use as the default cost source site when linking rule 2 is applied in Linked-Site Rules. Setting the default site to a target site could lead to conflicts and errors preventing the application of linking rules.

Item Tolerances

The Item Tolerances sub-panel includes parameters to determine how the system handles inventory balance variations during counts. Tolerances can be set based on item ABC class. The ABC class code classifies items by their importance in a manufacturing system and determines count frequencies.

Tolerance From

Indicates the method used to calculate the error tolerance for items in each ABC class.

Cycle Counting and Physical Inventory functions use this whenever a count is entered that is different than the quantity on hand recorded in the system. Error tolerance is calculated and used to determine whether the entered count should be accepted or marked as an error. Both percentage and amount tolerance is checked. The error must be within both tolerances for it to be accepted.

- **Quantity on Hand (Qoh)**. Default value. Set this field to Qoh to calculate item tolerances as a percentage of quantity on hand.
- **Usage**. Set this field to Usage to calculate item tolerances as a percentage of annual usage.

Value (dollar) tolerance is always checked.

For example, there is a Class A item with quantity on hand of 100, annual usage of 1000, and a GL cost of 10 dollars. The tolerance level is set to 10% or 500 dollars.

If the tolerance method is [Q]oh, counts off by more than 10 units are marked as out of tolerance (quantity on hand 100 * 10% = 10). If the tolerance method is Usage, counts off by more than 100 units are marked as out of tolerance (annual usage 1000 * 10% = 100).

Regardless of the percent tolerance, if the count is off by more than 500 dollars it is marked as out of tolerance. Given a GL cost of 10, any count more than 50 units different than the system quantity on hand is marked as an error.

Tolerances are set up by ABC class. This allows you to exercise a greater degree of control over class A and B items than others. Setting tolerances based on annual usage further refines this by putting tolerance into perspective with the amount of use of an item.

Class A, Class B, Class C, All Others

Specify the count tolerance amount for items with this ABC class.

Cycle counting functions use this whenever a count is entered that is different from the quantity on hand recorded in the system. Error tolerance is calculated and used to determine whether the entered count should be accepted or marked as an error to be corrected during

recount. Both percentage and amount tolerance is checked. The error must be within both tolerances for it to be accepted.

If the tolerance method is Qoh, item tolerances are calculated as a percentage of quantity on hand. If it is Usage, item tolerances are calculated as a percentage of annual usage. Value (currency) tolerance is always checked.

Unlike cycle counting, physical inventory counts let you enter out-of-tolerance quantities. No recount step is required. Instead, out-of-tolerance items are identified on count reports.

Tolerances are set up by ABC class. This allows you to exercise a greater degree of control over class A and B items than others. Setting tolerances based on annual usage further refines this by putting tolerance into perspective with the amount of use of an item.

Picking Logic

Before the system can move inventory, it must know what inventory to select, or pick. The picking logic specified in the Picking Logic sub-panel determines how the system picks inventory.

Picking Order

Enter the value that indicates the picking sequence to use when detail allocating items to work orders and sales orders.

Detail allocations are created when work orders are released and picklists are printed and when sales order packing lists are printed. Picking order determines which inventory is allocated first.

- **Creation Date**. Inventory is allocated and picked by date created. This method is useful in LIFO or FIFO picking, but only if all inventory receipts are segregated by location, lot/serial, or lot reference number. Otherwise, the date created is meaningless.
- **Expire Date**. Inventory is allocated and picked by expiration date. If you have items with a limited shelf life, this is useful for making sure those closest to expiration are picked first.
- **Location**. Default value. Inventory is allocated and picked by location. This method is useful when you have sequential warehouse locations laid out for easy picking.
- **Lot/Serial**. Inventory is allocated and picked by lot/serial number. This method is useful when you assign meaningful lot/serial numbers; for example, this allows you to pick the oldest lots first.

Inventory can be sorted in ascending or descending sequence for the specified picking order.

Detail allocations are used to reserve particular inventory quantity to be shipped or issued for an order. Quantity is allocated from specific sites, locations, lot/serial, and lot reference numbers for the item. This information prints on the picklist for use by warehouse personnel. If

different inventory is picked, this can be changed manually on the issue/shipment transaction.

The picking sequence defined here is used for all sites and locations in the current working domain.

Picking Sequence

Indicate whether items are to be picked in Ascending or Descending sequence for the specified picking order.

Detail allocations are created when work orders are released and picklists are printed and when sales order packing lists are printed. The value of Picking Order determines which inventory is allocated first.

Detail allocations are used to reserve particular inventory quantity to be shipped or issued for an order. Quantity is allocated from specific sites, locations, lot/serial, and lot reference numbers for the item. This information prints on the picklist for use by warehouse personnel. If different inventory is picked, this may be changed manually on the issue/shipment transaction.

The picking sequence defined here is used for all sites and locations in the current working domain.

Issue Days

Specify the number of calendar days before expiration that an item with limited shelf life can be picked or issued. Use this field to impose additional restrictions on inventory issues. For example, if you set the number of days to 5, inventory that is expired or will expire within the next 5 days does not appear on picklists as a quantity to be picked.

The system automatically sets an expire date for items when they are received if a value for shelf life is defined in Items. The expire date is set to the receipt date plus the value of shelf life. Shelf life is usually only defined for items which eventually spoil or degrade over time.

You can modify inventory attributes such as expire date, grade, assay %, and inventory status using:

- **Inventory Detail**

Inventory Accounting

Current Cost

Select the method to use for updating current material, labor, and burden costs. In QAD Costing functions, this is the default update method for all sites that do not have site-specific cost sets defined in Cost Set to Site Assignment. When not in Costing functions, this setting applies to all sites in the system. Choose from:

- **Average (AVG)**. Default. Current costs are updated during item receipts and other inventory-related activities using a simple weighted-average calculation.

- **Last**. Each item's current cost is equal to the unit cost from the last receipt or inventory update.
- **None**. The system does not automatically update current costs. They must be maintained manually, if needed.

Create GL Transactions

When you select this option, all inventory issues, receipts, count adjustments, and transfers create GL transactions reflecting the change in inventory asset balances. In addition, any transactions that affect work-in-process inventory create GL transactions, including work order issues and receipts. Selecting this option does not impact memo-item transactions. Companies using perpetual inventory accounting should select this option, taking advantage of the automatic journal transactions created by the system.

When you do not select this option, the system creates GL transactions by any of the activities listed above.

Transfer Clearing Account

Specify the GL account codes used to track transfers within the same company (entity). You cannot leave the account codes blank when multiple sites are defined. In a single-site environment, the Purchases account is used when this field is blank.

Summarized Journal

When you select the option to Create GL Transactions, the Summarized Journal option determines how GL transactions are created. When not selected, the system creates detailed GL transactions, one GL Journal per each operational transaction.

When selected, the system combines operational transactions into one GL Journal (posting) with multiple posting lines based on the following criteria:

- Operational transactions are combined into one posting with the same:
  - Effective Date
  - Entity
  - Daybook
  - Subledger (IC or WO)
- Posting lines are generated for each unique combination of:
  - Account
  - Subaccount
  - Cost center
  - Project

- SAF values
- Inter-company reference
- Legal document number
- Exchange rates and types
- Reversal enabled

The system creates additional GL postings and posting lines when an existing posting or posting line that meets the criteria above is locked when the operational transaction is saved.

QAD strongly recommends using summarized journals. Summarizing the operational journals can significantly reduce the number of operational GL postings and the run time of Operational Transaction Post. Full detail is always available from transaction registers in the original module.

Important You can specify the maximum number of operational transactions summarized into one GL Journal per daybook in Daybooks on page 5787.

Journal Reference Method

This option controls the summarization method when you select the Summarized Journal option:

- **0**. Generate one summarized journal transaction for each combination of date, entity, account, sub-account, cost center, and project.
- **10**. Generate one summarized journal transaction for each active user session.

When Summarized Journal is not selected, this field has no effect, but must be zero.

Sum Lower Level Costs into Material Cost

Cost-of-goods sold amounts are usually maintained separately for each cost component—material, labor, burden, overhead, and subcontract; however, some companies consider the material cost for an end item to include all costs associated with purchasing or manufacturing components, as well as any direct material costs. Select this option to report all lower-level costs as material costs (as if all components were bought from outside suppliers).

Current Cost from Accounts Payable

Select this option to update the current material cost when receiver matching is complete. When the invoice price differs from the purchase order price, the current material cost is adjusted.

Roll Up Local Phantom's This Level Costs

Select this option to roll up local phantom total costs.

Local phantoms are treated like phantoms only in specific product structures. When selected, this-level labor and overhead costs for local phantoms roll up into the parent item’s cost, which can cause manufacturing variances.

Note Global phantoms identify an item as a phantom on all bills of material. You can perform routing cost rollups on global phantom items. Only lower-level labor, burden, and subcontract costs of a global phantom item are included in the parent item’s cost when the product structure cost rollup is performed. When a global phantom is required to issue orders to build the item as a stockable item, you build and stock the phantom item, and the routing and product structure cost rollups calculate this-level costs correctly.

Item Attributes

Use the Item Attributes panel to define control parameters that default to other item attribute program fields or program fields. You can:

- Set up the default status for a new attribute when it is added to an attribute profile.
- Set the default inventory status code to be used for processing a non-conforming item lot.
- Determine if the specifications for lot and sublot profile attributes are displayed when using receipt transaction.
- Determine if the inventory detail Reference field identifies a sublot.
- Set the Number Range Management (NRM) sequence code for item attribute IDs and auto lot number IDs.

Attribute Status Default

Specify the default status (Active or Inactive) for a new attribute when it is added to an attribute profile. It is recommended that you set the default status to Active.

Non-conforming Status Default

Select the inventory status code that is applied to an inventory lot when the result for that lot on a quality order (lot or quality type) is non-conforming. The inventory status code is applied when you close the quality order (lot or quality type) for that inventory lot.

Attribute Sequence ID

Enter the Number Range Management (NRM) sequence code used to automatically assign the attribute ID for an item attribute. When setting up the sequence in NRM, use attr_name as the target dataset.

Item attributes are shared across all domains within a database.

Auto Lot Sequence ID

Enter the Number Range Management (NRM) sequence code used to automatically assign lot numbers for inventory. The system uses this sequence ID when there is no auto lot number specified in the item master. When setting up the sequence in NRM, use attrlot_lot as the target dataset.

Display Specification for Results Entry

This option determines if the Specification and Specification Details fields are visible or blank for a quality order (lot type) in the following:

- **Quality Orders** > Attributes Details screen > Attributes browse

This is useful if you do not want users to be influenced by an attribute's specifications when entering values for those attributes.

When this option is selected, the values in the Specification and Specification Details fields are visible. When not selected, the values in the Specification and Specification Details fields are blank.

Note To make similar changes to the browses for quality orders (quality type), use the Display Specification for Results Entry option in **Quality Control**.

Note To hide the Specification and Specification Details fields in grids on Quality Orders for specific roles, use **Role Permissions**. For more information, see the *QAD Adaptive UX Implementation Guide*.

Use Inventory Reference as Sublot

Select this check box to have the inventory detail Reference field identify the sublot for an inventory lot record. This check box should only be selected if:

- The Reference field for inventory records will never be used to identify a location such as a shelf, a bin, a pallet, or a container.

  and,

- There is no integration with QAD Warehousing.

Note If you are using QAD Warehousing, this check box must not be selected because Warehousing uses the Reference field for pallets.

Serialization

Use the Serialization panel to define control settings for the serialization module.

Select the Enable Serialization check box to activate serialization functions.

Note QAD Serialization is not compatible with QAD Warehousing. When QAD Warehousing is activated, you cannot select the Enable Serialization check box to activate serialization functions. Conversely,

if QAD Serialization is activated, you cannot use QAD Warehousing functions.

You can set control options that let you avoid system generation of many serials at the same time. You do this by setting up the type of validation the system applies when the maximum number is reached.

When you create serials with any of the serialization pack create functions, when the number of created serials exceeds the serial number control limit set, the system can display a warning or error.

Enable Serialization

Select this check box to activate serialization functions. The default value is cleared.

Cycle Count Batch Active

Enter the time in days, hours, and minutes for active cycle count batch processing. Cycle count batch processing can remain active after the system creates the batch to process. Enter a 0 (zero) as the time to indicate that there is no limit on active days. You cannot enter negative numbers.

When you enter cycle count results, the system first attempts to locate an active batch ID based on site/location/item. When a batch ID cannot be found, the system creates a new one. When the system finds an expired batch ID, the system sets the batch ID as expired and creates a new batch ID.

When the batch ID is active, the system uses the batch to record cycle count results.

Serial Number Enforcement

Indicate the level of enforcement when serial number control limits are reached:

- **None.** The system takes no action when the serial number limit is reached.
- **Warning.** The system displays a warning when the serial number limit is reached, but processing can continue.
- **Error.** The system displays an error when the serial number limit is reached, and you cannot continue processing until you reset values in this program.

Serial Number Control Limit

Enter the maximum number of serials that the system can create when running any of the Pack Create programs or Pack Commission.

The system generates the maximum number of serials in one transaction, for example, during a pack create, receipt, or build.

Enable Serialization For Shipping

Use the Enable Serialization for Shipping controls to define if serialization is activated for the shipping process, either for the whole domain or for specific sites. When using Picklist/Pre-Shipper Auto, the settings in this panel determine whether detail allocations are processed traditionally (directly picked) or if they are processed with serialization (detail allocated only). When serialization is enabled, picking is done using the specific Picking/Pack Build functions.

For example, users can determine that only a few specified sites will have the serialized shipping process activated while all other sites will process allocations traditionally. To set up this use case, follow these steps:

1. To activate the serialized shipping process for a specific site, click New to add a line to the grid. Then enter the site in the Ship From field and select the Active check box. Repeat this step to specify additional sites.
2. To specify that all other sites process allocations traditionally, click New to add a line to the grid. Then set the Ship From field to Blank and ensure that the Active check box is not selected.

Conversely, users can determine that only a few sites will process allocations traditionally while all other sites will have the serialized shipping process activated. To set up this use case, follow these steps:

1. To activate the serialized shipping process for all sites, click New to add a line to the grid. Then enter Blank in the Ship From field and select the Active check box.
2. To specify which sites process allocations traditionally, click New to add a line to the grid. Then enter the site in the Ship From field and ensure that the Active check box is not selected. Repeat this step to specify additional sites.

Ship From

Enter a valid site code for the current domain. Leave this field blank to specify all sites in the current domain.

Name

Displays the name of the site entered in the Ship From field. If the Ship From field is blank, this field displays "All Sites."

Active

Select this check box to activate serialization for shipping process.

Supplier Consignment

Use the Supplier Consignment panel to activate the Supplier Consignment Inventory module and define other operational control values.

Use Supplier Consignment

Select the Use Supplier Consignment check box to activate the Supplier Consignment Inventory module and use Supplier Consignment Inventory programs. This is the single place where you can activate system-wide supplier consignment control settings.

Use the Supplier Consignment Inventory module to plan, order, stock, track, and report supplier-consigned inventory while deferring accounts payable (AP) transactions. This module extends the purchase order process by providing new transactions to receive inventory and identify it as consigned. These transactions also delay the standard AP booking process until inventory is consumed. When you notify the supplier of usage, standard invoicing transactions can occur.

Supplier Consignment Inventory lets you track inventory after it has been received and while it resides in your facility. When you notify the supplier that inventory has been used, the transfer of ownership is completed.

Using consigned inventory alleviates the need for the supplier to buy back the excess sent to you or remaining at the end of the consignment period. Because the supplier still owns the inventory, any excess is simply returned.

Do not select the Use Supplier Consignment check box to use standard purchase order programs. The system bypasses all consignment screens.

Once you have activated the consignment module, received consigned items, or performed transactions, if you deselect this setting and deactivate the module, the system displays a warning message. Unless all consigned items are consumed, the system warns you that consigned items exist and prompts you to confirm your action.

When the Supplier Consignment Inventory module is active, additional fields and frames display for user input during order entry in:

- **Purchase Orders**
- Blanket Orders
- **Supplier Scheduled Orders**

When not activated, the frames and fields display for reference and cannot be updated. The Maximum Aging field does not appear.

Supplier Consignment Default

Specify the default value for the Consignment field in new purchase orders, blanket orders, and supplier scheduled orders. When this option is selected, when users create a new purchase order, a new

blanket order, or a new supplier scheduled order, the Consignment field in the Main panel and on the order lines is selected by default.

Do not select this check box if the majority of your orders are standard purchase orders. If you are using Enterprise Material Transfer (EMT), this check box should not be selected since the value cannot be changed on the EMT purchase order.

If the new order is a supplier scheduled order that the system automatically creates for a trade sales order, you cannot change the Consignment field on the new order.

In either case, you can combine lines for both consigned and non-consigned inventory on one order.

The value defined here is used on new orders only if the system does not find a more specific match in Supplier & Item Consignment Settings.

Maximum Aging Days

Optionally enter the maximum number of days consigned inventory is allowed to reside at your facility.

The default is 0 (zero), which indicates there is no scheduled aging deadline.

The system automatically adds the number of days entered here to the receipt date in PO Shipper Receipts or the Receive action in **Purchase Orders** to determine a maximum aging date shown in aging reports and update programs. The calculated date is used by reports to determine how long inventory has been at your facility.

You can extend the maximum aging date as many times as required using Aging Inventory Update or Aging Inventory Batch Update. An extension automatically updates each purchase order receipt independently.

The value entered here defaults to records defined in Supplier & Item Consignment Settings. If control records are not defined, it defaults to new orders created in **Purchase Orders**, Blanket Orders, and **Supplier Scheduled Orders**.

Use Consignment First

When Supplier Consignment is enabled, this value determines which inventory is processed first. Select the Use Consignment First check box to use consigned inventory first. Do not select this check box to use non-consigned inventory first, letting the system select inventory based on the picking logic specified in Inventory Control. By default, this check box is not selected.

The system checks this setting during various usage transactions, such as when items are issued to a manufacturing order, distribution order,

or sales order. It also affects cycle count adjustments created by the Cycle Count Results action in **Cycle Counts**.

This field is associated with reversal functionality when Supplier Consignment is enabled. When a negative quantity is issued, if this check box is selected, the system checks for usage records. When the check box is not selected, the system only checks for owned material when processing the negative quantity issue.

Supplier Consignment Accounting

Use the Supplier Consignment Accounting panel to specify operational settings that have an impact on financial activities, such as the PO cost point.

Transfer Ownership

Specify when the transfer of ownership (consumption) of the supplier consigned inventory is allowed:

- **Issue.** Select Issue to transfer the ownership of the consigned inventory when it is issued.
- **Backflush.** Select Backflush to transfer the ownership of the consigned inventory when it is backflushed.

Purchase Order Cost Point

Specify which purchase order cost you want the system to use to calculate the purchase price variance.

- **Usage.** Use purchase order cost at time of usage.
- **Receipt.** Use purchase order cost at time of physical receipt.

The value defaults from Supplier & Item Consignment Settings. Once a consigned receipt is processed, this field cannot be updated.

When Usage is specified on scheduled purchase orders, the system looks for the current price by checking the price list specified on the scheduled order. If a price list is not specified, or if a price list is not available, or if a zero price is returned, the system tries to find a supplier item price. If a supplier item price is not found, the cost on the purchase order is used.

When Usage is specified on discrete purchase orders, the system always uses the cost on the purchase order.

Obsolete Inventory

Use the Obsolete Inventory panel to set system defaults for obsolete inventory analysis and reporting functions.

Inventory Type Logic

This option determines how the system displays the value of the Field Value Range selection criteria associated with an Inventory Type in inventory functions and reports.

When you select this option, the system displays the Field Value Range as a logical expression (a logic statement); for example, *if (Item Type = 'FINGOOD' and Pur/Mfg = 'M' and Site = '10-400')*

When you do not select this option, the system displays the Field Value Range as a simple set of selection criteria; for example:

Item Type	FINGOOD	FINGOOD
Pur/Mfg	M	M
Site	10-400	10-400

Conflicting Inventory Types

Indicate the action to takes when items that have overlapping inventory types are found when calculating obsolete inventory values:

- **BESTFIT (default)**. Choose the first inventory type with the highest number of fields.
- **BYPASS**. Do not analyze if conflicting. No analysis data is reported where conflicts exist. The system reports conflicts if Report Conflicts is Yes in Obsolete Inventory Analysis.
- **FIRST**. Choose the first inventory type in alphabetical order.

Use ABC Analysis Usage

Select this option to have the system use the average daily usage extracted from existing ABC analysis for obsolete inventory analysis. When selected, the system uses extracted ABC analysis data when it performs obsolete inventory calculations. Consumption data is not needed for analysis when the system uses ABC analysis data.

ABC analysis extracts past issue transactions for particular transaction types and stores an average daily issues quantity. ABC classification is based on annual dollar usage of inventory where:

- Class A inventory items have the highest annual usage and receive the most attention.
- Class B items have lower annual usage and are controlled using reorder point.
- Class C items have the lowest annual usage. For class C, inventory value is determined by annual usage, unit cost, lead time, space available for storage, and quality.

When not selected, the system does not use extracted ABC analysis data when it performs obsolete inventory calculations. The system

uses the issue transactions you previously extracted in Extract Class C items have the lowest annual usage. For class C, inventory value is determined by annual usage, unit cost, lead time, space available for storage, and quality.

Retain Consumption Data

Select this option to retain item consumption data the system uses during obsolete inventory analysis. The system retains a table of consumption data by item, site, and period; displays the table data in the Consumption Report; and lets you build extractions in Extract Consumption. The system also retains the quantity on hand (QOH) balance by item, period, year, and site if you set Extract Quantity on Hand to Yes in Extract Consumption.

You must select this option when you want to:

- Extract consumption data using Extract Consumption.
- Retain item consumption data in the system and display it later in Consumption Report.

The system retains consumption data for each item/site by GL year and GL period. The system also stores consumption data by GL quarter; however, since GL calendars do not identify quarters, the system calculates quarters by dividing the number of periods in the fiscal year of the transaction's effective date by four, truncating to a whole number for the first three quarters, and placing the remainder in the last quarter. Hence, a 13-period year consists of 3, 3, 3 and 4 periods.

When you do not select this option, the system does not retain consumption data, you cannot run Extract Consumption, and the system stores values temporarily during obsolete inventory analysis.

Consumption Filter Program

Enter the name of the program the system uses to filter consumption data it extracts for obsolete inventory analysis. The default filter program is icobexb.p. If you leave this option blank, the system extracts all data.

The input to icobexb.p is the record ID of the transaction history record. You can customize icobexb.p so that it filters specific record IDs. Commented sections are included in icobexb.p that provide instructions to customize it. You can also create your own filter program and enter it here.

Last Transaction Extracted

This option is display only and shows the system date and time of the last inventory transaction the system extracted in Extract Consumption.

Path for Reserve Output

Indicate the path that the system uses when you write obsolete inventory analysis data into an output file. A blank indicates the system

creates the output file in the working directory. Use your system's conventions to specify path and directory.

Transaction History Analysis

Use this panel to indicate the types of transactions you want the system to extract when analyzing obsolete inventory. The system analyzes obsolete inventory by calculating how many periods the current quantity on hand will last based on the consumption quantity over a past period. When you specify a transaction type here, the system extracts only issue transactions of that type from inventory transaction history and uses the data to analyze items at a specified site or all sites. You can add other transaction types by selecting New. The system does not verify that transaction types exist.

Site

The site from which the system extracts transactions.

Site Description

The site description.

Extract Issue Transactions

By default, the following four types are used:

- **ISS-SO**. Issue sales order item.
- **ISS-WO**. Issue work order item.
- **ISS-UNP**. Inventory unplanned issue.
- **ISS-DO**. Distribution order shipment.

Inventory Days on Hand

The calculation considers all sources of future demand (customer orders, repetitive schedules, intersite requests, safety stock demand, and so on). It uses net forecasts, rather than gross forecasts. The quantity on hand is at the time the calculation is made, both for today and projected for future days.

Note Inventory days on hand cannot be calculated if no demand exists. When demand is zero, the system displays 999 as the days on hand (DOH).

DOH is a useful metric for planners and materials managers. The number of days shown provides immediate insight into the inventory level of critical materials, including visibility of potential supply problems or excess inventory. For example, if the value of on-hand inventory for an excessive number of days might have a negative impact on overall financial performance, management can adjust ordering policies. Financial analysts and investors use it to determine how efficiently a business manages inventory dollars.

The **Inventory Days On Hand** browse displays the DOH computed for an item or group of items in inventory based on current inventory and future demand for an item-site combination. When you run the **Build Days on Hand Analysis** report, the **Inventory Days On Hand** browse displays the results. Each time the **Build Days on Hand Analysis** report is run, the **Inventory Days On Hand** browse is refreshed with the latest results. The system clears the analysis data each time you run this report and replaces it with the current results. This allows the aggregation functions to use the most recent data available as of the latest extract.

This browse also contains links in the drill-down menu, which allows users to view **Days On Hand By Buyer and Date**, **Days On Hand by Commodity and Date**, **Days On Hand By Date**, **Days On Hand By Site and Date**, and **Days On Hand by Supplier and Date**.

The **Build Days on Hand Analysis** report is available from the action menu. For more information about the report, see Build Days on Hand Analysis on page 2914.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Build Days on Hand Analysis

When running this report, the following records are created:

- Item and item/site data values for filtering and aggregation
- Time-phased supply and demand values, to allow customers to create their own date intervals for aggregation
- Projected quantity on-hand
- Average daily demand over each specified horizon value
- Average daily demand value in base currency
- Future demand information extracted from MRP detail

When you run this report, the analysis data is displayed in the **Inventory Days On Hand** browse. The system clears the analysis data each time you run this report and replaces it with the current results. This allows the aggregation functions to use the most recent data available as of the latest extract.

Report Filters

This report contains standard report filters such as Item, BOM/Formula Code, Site, Buyer/Planner, Product Line, Group, Item Type, Supplier, and Purchase/Manufacture. Other filters to consider in this report are the following:

Include Non-nettable Inventory

Specify whether non-nettable inventory is included in extracted data. Nettable inventory is inventory that MRP sees as quantity on hand.

- **Yes**. Include all inventory whether it is classified as nettable or not.
- **No**. Exclude non-nettable inventory. You may want to leave out non-nettable inventory because that material is not included in any MRP planning to satisfy demand. Examples of non-nettable inventory include material that is defective, quarantined, or reserved for a use other than manufacturing.

Include Customer Consignment

Specify whether extracted data includes item quantities that are part of customer-consigned inventory. This field has an effect only when you are using the Customer Consignment Inventory module.

Include Supplier Consignment

Specify whether extracted data includes item quantities that are part of supplier-consigned inventory. This field has an effect only when you are using the Supplier Consignment Inventory module.

Horizon Days 1, Horizon Days 2, Horizon Days 3

Enter the number of days to be used in extracting average daily demand. You can enter up to three values for Horizon Days to see the effects of average demand on DOH over different planning horizons. You must populate at least one of the Horizon Date fields for records to be created.

Date

Enter a range of dates to select records for extract. The default is the date in the current week that corresponds to the Summary Default value in MRP Control. You can leave the start date or end date for the range blank.

Day/Week/Month

Specify a value that indicates the length of each period that will have data extracted for aggregated DOH analysis. Values can be D (days), W (weeks), or M (months). The default is W.

Per Column

Specify the number of time periods (days, weeks, months, or periods) to include in each column of the stored extraction data. The default is 1.

Information is extracted in columns with one column per time period. Each period summarizes activity for one or more Day, Week, Month, or GL calendar Period. All activity prior to the start date of the data extract is stored in the first column under the label Past.

In some situations, it may be useful to review information by month. To do this, set the Start Date to the beginning of the month, Day/Week/Month to Month, and Per Column to 1.

Tag Inventory Valuation

Use the Tag Inventory Valuation report to see the value, at GL Cost, of all the completed physical inventory counts (tags) so that you can properly plan for the impact on total inventory. Properly planning for the impact might include recounting one or more of the tags or creating or applying a "reserve" balance to the update.

This report displays the following information:

- Site
- Item Number
- Location
- Lot/Serial
- Reference
- Prod Line
- ABC Class
- Inventory Account
- Counted Tags
- Counted Quantity. Allows users to validate that all expected tags have been counted, which is useful when you have tags by serial ID.
- Frozen Quantity
- Qty Diff (Counted Qty - Frozen Qty)
- GL Cost
- Extended Counted Cost (Counted Qty x Unit Cost)
- Extended Frozen Cost (Frozen Qty x GL Cost)
- Adjustment (Qty Diff x GL Cost)

By default, the printed output is sorted by Site, Item, Location, and Lot/Serial.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Site

Enter a code identifying a site. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Location

Enter the location code that identifies the physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts.

Location codes can be used to select specific information to appear on reports and inquiries.

Location codes may be predefined or created automatically by the system as you transact inventory. This is determined by the Automatic Locations setting at that site. If Automatic Locations is set to No for the site, the location must be defined in Locations before any inventory can be received or transferred into that location.

When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Most inventory reports, in particular pick lists and cycle count worksheets, sort by location code. Well-devised coding schemes can make life easier in the stockroom.

Prod Line

Enter the product line code that identifies the major item and product groupings. Every item/product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.

- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process, for example. In the plastics industry, there may be a product line for blow molded items and another for injection molded items. Or group items by application, creating product lines for raw materials, finished goods, and packaging.

You can select many reports by product line code ranges. You can set up similar types of product lines starting with the same character so that they can be easily aggregated on reports. Product lines are alphanumeric and will sort in alphanumeric sequence, even if you use numbers for product lines. For example lines 1, 2, 3, ..., 10, 11, ..., 20, 21, will sort: 1, 10, 11, ..., 2, 20, 21, ..., 3.

Item Number

Enter the code that identifies an inventory item defined in Items.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

ABC Class

A blank in this field selects all records in the item range specified, regardless of the ABC code. Enter A, B, or C to select only those items with the specified ABC code. This field is validated against generalized codes.

ABC classification codes determine the count frequency and the error tolerance allowed for each item. The Cycle Count Worksheet selects items for counting based on ABC class. ABC class can also dictate how the item is managed. For example, A items usually require tighter physical controls such as a locked stocking area and tighter planning parameters, along with more frequent cycle counts.

Some reports, such as the Inventory Valuation Report, can be selected for ranges of ABC classes.

Cost Set

The default is Standard.

The name of the cost set storing the general ledger (GL) cost for this item at this site.

The cost set is used by Detail Forecast Report to calculate the cost of production and sales price for the item forecast.

Detailed Excel Output

To export the report as an .xls Excel file, set this field to Yes. Then go to Settings and set the File Type to Excel and the Layout to Excel Layout. Then click Run.

Item Packaging

The Item Packaging browse contains the following actions:

- Packaging Simulation

  The Packaging Simulation action is used to view the whole Serial Hierarchy Definition from the master pack level to component level.

- Packaging Hierarchy

  The Packaging Hierarchy action is used to view the whole Serial Hierarchy Definition to be used in transactions. The difference between this and Packaging Simulation is that it uses the matching rule in Item Packaging to get the result to be used based on the entered value; therefore, it must have only one result.

Actions

Packaging Simulation Action

Item Number

Enter the code that identifies an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Site

Enter a code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

BOM Code

A code uniquely that identifies a service product structure (BOM), which defines the set of items required for a service activity.

Parts or components used in the service of an item can be grouped under a BOM code. The BOM code can represent all the parts needed for the activity, or just those used at a certain operation. The items on the BOM print on Call Reports, and can be loaded as item usage in Call Activity Recording and Customer Quotes.

You can set up any number of service BOMs and routings for a single item. Service BOMs can be associated with service standard operations or with operations on a service routing. They can also be associated with items in Service Items or Site Service Exceptions in Sites. Currently, the system allows you to link three per item.

- A PM BOM and PM Routing used by default for calls with the PM Work Code, including those automatically generated by the system as part of Preventive scheduling.
- An Installation BOM and Installation Routing used by default for calls with the Install Work Code, including those automatically generated by the system during invoice post for items requiring an installation.
- A Repair BOM and Repair Routing used by default for calls with any other work code. The Repair BOM and Repair Routing are also used on the rework work order created by the RMA Release to Work Order function.

The PM Work Code and Install Work Code are specified in Call Management Control.

Address

The address code uniquely identifies a name and address record, usually of a customer or supplier.

Transaction Type

Transaction type codes identify the source of an inventory transaction record maintained in transaction history. The system also uses them to determine records to display on reports. For example, a Sales Booking Report only includes booking transactions of type ORD-SO. Item and inventory status codes can restrict inventory transactions by type code.

Packaging Hierarchy Action

Item Number

Enter the code that identifies an inventory item defined in the Items view.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items,

or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Site

Enter a code that identifies a site. A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually, each site is divided into multiple locations, where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

BOM Code

A code that uniquely identifies a service product structure (BOM), which defines the set of items required for a service activity.

Parts or components used in the service of an item can be grouped under a BOM code. The BOM code can represent all the parts needed for the activity, or just those used at a certain operation. The items on the BOM print on Call Reports, and can be loaded as item usage in Call Activity Recording and Customer Quotes.

You can set up any number of service BOMs and routings for a single item. Service BOMs can be associated with service standard operations or with operations on a service routing. They can also be associated with items in Service Items or Site Service Exceptions in Sites. Currently, the system allows you to link three per item.

- A PM BOM and PM Routing used by default for calls with the PM Work Code, including those automatically generated by the system as part of Preventive scheduling.
- An Installation BOM and Installation Routing used by default for calls with the Install Work Code, including those automatically generated by the system during invoice post for items requiring an installation.
- A Repair BOM and Repair Routing used by default for calls with any other work code. The Repair BOM and Repair Routing are

also used on the rework work order created by the RMA Release to Work Order function.

The PM Work Code and Install Work Code are specified in Call Management Control.

Address

The address code uniquely identifies a name and address record, usually of a customer or supplier.

Transaction Type

Transaction type codes identify the source of an inventory transaction record maintained in transaction history. The system also uses them to determine records to display on reports. For example, a Sales Booking Report only includes booking transactions of type ORD-SO. Item and inventory status codes can restrict inventory transactions by type code.

Inventory Accounts

Inventory Accounts allows a user, such as a Cost Accounting Manager, to separately track product lines for multiple sites or multiple locations within a site. For example, you may want to track inventory held in a rework location separately from finished goods.

Specify Inventory, Scrap, Inventory Discrepancy, and Cost Revalue accounts for each product line, site, and location combination you need. These accounts are accessed by different functions.

- The Inventory account is updated by inventory transactions such as receipts, issues, and transfers.
- The Scrap account is updated when production order, repetitive order, and quality order rejects occur.
- The Inventory Discrepancy account is updated when the inventory quantity on hand is changed by cycle count recounts or physical inventory updates.
- The Cost Revalue account is updated when inventory is revalued. This occurs when item GL costs change as a result of running Product Structure Cost Roll-Up, Routing Cost Roll-Up, Current Cost Set Move to GL Set, or Cost Set Copy to Cost Set.

The system searches for GL accounts in the following order:

1. Matching product line, site, and location
2. Matching product line and site with a blank location

If no match is found, the account entered in **Product Lines** for the item is used as the default.

When creating a new Inventory Account record and you enter the Product Line, the accounts in **Inventory Accounts** and in the Consignment Accounts panel defaults from the settings in **Product Lines**. The Transfer Variance Account in the Location Independent subpanel defaults from the settings in **Sites**.

Once the Inventory Account record is created, the Product Line, Site, and Location fields cannot be modified. All other fields can be changed.

Main

Product Line

Enter or select the product line this set of general ledger accounts applies to. Product line codes identify major item and product groupings.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific product lines and sites allows you to separate the value of inventory held at different sites for financial reporting.

If you are using multiple sites to store inventory, even if they are in the same financial entity, you may want to keep inventory value separate. For example, if you have inventory in two warehouses, you may want each warehouse to appear as a different line item on your balance sheet. Tracking scrap and discrepancies by product line and site may be useful for identifying problem areas that need resolution.

Site

Enter or select the site this set of general ledger accounts applies to.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific product lines and sites allows you to separate the value of inventory held at different sites for financial reporting.

If you are using multiple sites to store inventory, even if they are in the same financial entity, you may want to keep inventory value separate. For example, if you have inventory in two warehouses, you may want each warehouse to appear as a different line item on your balance sheet. Tracking scrap and discrepancies by product line and site may be useful for identifying problem areas that need resolution.

Location

Enter or select the location code this set of general ledger accounts applies to. Location codes identify physical locations where inventory is stored.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific locations allows you to separate the value of inventory held in this location from other locations.

This is useful for tracking consignment inventory and scrap. The physical quantity can be maintained separately, as can the value for financial reporting.

Defaults

Use the Default Sub-Account and Default Cost Center fields to enter the same sub-account code or cost center code for all accounts associated with a combination of product line, site, and location.

- When you click Apply, the system overrides sub-account and cost center codes with the values entered in the Default Sub-Account and Default Cost Center fields.
- If you do not click Apply, the system ignores any values entered in Default Sub-Account and Default Cost Center fields.

The account values can be modified after the defaults are applied.

Default Sub-Account

Enter a valid sub-account code to be used as the default sub-account for all accounts in this screen. Use this feature to quickly change only one part of an account number.

Default Cost Center

Enter a valid cost center code to be used as the default cost center for all accounts in this screen. Use this feature to quickly change only one part of an account number.

Inventory Accounts

Inventory

Enter the general ledger (GL) account code used to track inventory value for items in this product line at this site and location. This must be a valid, active account defined in **GL Accounts** with a GL Type of Inventory Control Account.

Inventory transactions include sales order shipments, purchase order receipts, service/support returns and shipments, work order issues and receipts, unplanned inventory issues and receipts, and physical inventory counts. These transactions affect inventory value by creating a GL transaction which either debits (increases) or credits (decreases) the Inventory account.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among

the set of accounts, based on percentages defined in Operational Allocation Codes.

Inventory Discrepancy

Enter the general ledger (GL) account code used to track inventory discrepancies for items in this product line at this site and location. This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

Inventory discrepancies occur during cycle counts or physical inventory updates. When the system inventory count does not agree with the physical count, you must adjust the system. These adjustments are reflected in the inventory value by posting a GL transaction:

- Increases in the system inventory count debit the Inventory account and credit the Inventory Discrepancy account.
- Decreases credit the Inventory account and debit the Inventory Discrepancy account.

If you use Average Cost for your GL cost set, the accounts payable (AP) supplier invoice process can update this account. This occurs when the on-hand inventory quantity is less than the invoice quantity. Variance amounts are prorated on a per unit basis.

- AP Rate Variance (on-hand quantity * per unit variance) is posted to the Inventory account.
- Remaining variance (difference between invoice quantity and on-hand quantity * per unit variance) is posted to the Inventory Discrepancy account.

As a result, the on-hand inventory per unit cost equals the invoice unit price.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Scrap

Enter the general ledger (GL) account code used to track scrap value for items in this product line at the specified site. This must be a valid,

active account defined in **GL Accounts** with a GL Type of Standard Account.

Note For the system to consider a Scrap account set up in **Inventory Accounts**, it must be defined with a blank location code. You cannot define location-specific Scrap accounts.

Location is blank when searching for a Scrap account for production orders and repetitive orders. If no match is found, the account entered in **Product Lines** for the item is used as the default.

Scrap amounts are posted to the GL when production order or quality order rejects are reported.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Cost Revalue

Enter the general ledger (GL) account code used to track cost revaluations for items in this product line at this site and location. This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When the GL cost of an item changes, the inventory value for that item changes. Cost revaluations are calculated as the change in inventory cost multiplied by the inventory quantity.

- Increases in an item's cost debit the Inventory account and credit the Cost Revalue account.
- Decreases credit the Inventory account and debit the Cost Revalue account.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all

GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Location Independent

Transfer Variance

Specify a Transfer Variance account code for combinations of product line and site; these accounts do not apply to locations. The Transfer Variance account is used to track cost variances for items in the associated product line when they are transferred between sites.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When searching for a Transfer Variance account, location is always blank. Location is also blank when searching for a Scrap account for production orders and repetitive orders.

If no match is found, the account entered in **Product Lines** for the item is used as the default.

This account defaults from the Transfer Variance account set up in **Base Control** > Domain Accounts panel, but you can change it to another account with a GL Type of Standard Account. Product-line specific accounts can be defined in **Inventory Accounts**.

Inventory activity typically occurs at the site where orders are processed. However, in a multi-site environment, you can ship, receive, or issue inventory from a different site. If the other site has different costs for an item, a variance occurs.

This variance is posted to the Transfer Variance account. The system uses the following logic to find a Transfer Variance account in relevant inventory transactions:

1. A value defined for the Item Product Line and Site in **Inventory Accounts**.
2. A value defined for the Site in **Sites**.
3. A value defined for the Domain in **Base Control**.

If the two sites are in different entities, an intercompany transaction may also be posted. The system automatically updates costs at both the central and remote sites.

- When the transfer-from and transfer-to sites are in different entities, the system automatically generates the appropriate

intercompany balancing entries using the Cross-Company Inventory Control account associated with the current domain and the intercompany codes associated with the entities.

- When the two sites are in the same entity, a balancing debit or credit is posted to the Transfer Clearing account defined in **Inventory Control** > Inventory Accounting panel.

Consignment Accounts

Use the Customer Consignment subpanel to set up account, sub-account, and cost center codes for managing consigned inventory. You can define accounts to track inventory that is:

- In-transit from the stocking location to a customer facility
- Shipped and resides at a customer facility
- Shipped but invoicing is deferred (offset)

SO Consigned In-Transit

Enter the general ledger (GL) account code used to track revenue for consigned inventory that is in-transit to a customer location. This must be a valid, active account defined in **GL Accounts** with a GL Type of Inventory Control Account.

The account code defined in **Base Control** > Domain Accounts panel > Consignment Accounts subpanel defaults to **Product Lines**, which in turn defaults to **Inventory Accounts**. The system always looks for the most specific record first.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

SO Consigned Inventory

Enter the general ledger (GL) account code used to track revenue for consigned inventory that has been shipped and resides at the customer location. This must be a valid, active account defined in **GL Accounts** with a GL Type of Inventory Control Account.

The account code defined in **Base Control** > Domain Accounts panel > Consignment Accounts subpanel defaults to **Product Lines**, which in

turn defaults to **Inventory Accounts**. The system always looks for the most specific record first.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

SO Consigned Offset

Enter the general ledger (GL) account code used to track revenue for the deferred receivable associated with consigned shipments. This must be a valid, active account defined in **GL Accounts** with a GL Type of Inventory Control Account.

The account code defined in **Base Control** > Domain Accounts panel > Consignment Accounts subpanel defaults to **Product Lines**, which in turn defaults to **Inventory Accounts**. The system always looks for the most specific record first.

Account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Production Order Accounts

This screen allows a user, such as a Cost Accountant, to separately track product lines for multiple sites within the same entity. For example, you may want to track subcontract costs for different sites using separate accounts.

The account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Accounts defined in this screen take precedence over default accounts in **Product Lines** and **Base Control** > Domain Accounts panel.

After entering the Product Line and Site combination, define Floor Stock, Material Usage Variance, Material Rate Variance, Mix Variance, Cost of Production (COP), Subcontract Usage Variance, Subcontract Rate Variance, Work in Process (WIP), and Method Variance accounts. The system accesses these accounts to track different transactions:

- The Floor Stock account is credited for the cost of bulk issue items when a production order is closed.
- The Material Usage Variance account is updated when the quantity of components issued differs from the standard quantity required.
- The Material Rate Variance account is updated when the cost of a component issued differs from the cost listed on the production order bill of material (BOM).
- The Mix Variance account is updated when a joint order set is closed and the actual quantity received differs from the standard or expected quantity.
- The COP account is updated to track material, subcontract, and labor costs not associated with a production order or repetitive schedule.
- The Subcontract Usage Variance account is updated when the quantity of a subcontracted work order operation received on a purchase order differs from the standard quantity required for the operation.
- The Subcontract Rate Variance account is updated when the purchase order price differs from the standard subcontract cost for a routing operation.

- The WIP account is updated to track component issues, labor, burden, and subcontract costs for open production orders.
- The Method Variance account is updated after a production order is closed and all other known variances have been computed. Positive balances in WIP are debited to this account.

The system first searches for GL accounts matching the product line and site. If no match is found, the account entered in **Product Lines** for the item is used as the default.

When creating a new Production Order Account record and you enter the Product Line, the accounts in **Production Order Accounts** should automatically default from the settings in **Product Lines**.

Once the Production Order Account record is created, the Product Line and Site fields cannot be modified. All other fields can be changed.

Main

Product Line

Enter or select the product line this set of general ledger accounts applies to. Product line codes identify major item and product groupings.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific product lines and sites allows you to separate the value of inventory held at different sites for financial reporting.

If you are using multiple sites to store inventory, even if they are in the same financial entity, you may want to keep inventory value separate. For example, if you have inventory in two warehouses, you may want each warehouse to appear as a different line item on your balance sheet. Tracking scrap and discrepancies by product line and site may be useful for identifying problem areas that need resolution.

Site

Enter or select the site this set of general ledger accounts applies to.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific product lines and sites allows you to separate the value of inventory held at different sites for financial reporting.

If you are using multiple sites to store inventory, even if they are in the same financial entity, you may want to keep inventory value separate. For example, if you have inventory in two warehouses, you may want each warehouse to appear as a different line item on your balance sheet. Tracking scrap and discrepancies by product line and site may be useful for identifying problem areas that need resolution.

Defaults

Use the Default Sub-Account and Default Cost Center fields to enter the same sub-account code or cost center code for all accounts associated with a combination of product line and site.

- When you click Apply, the system overrides sub-account and cost center codes with the values entered in the Default Sub-Account and Default Cost Center fields.
- If you do not click Apply, the system ignores any values entered in Default Sub-Account and Default Cost Center fields.

The account values can be modified after the defaults are applied.

Default Sub-Account

Enter a valid sub-account code to be used as the default sub-account for all accounts in this screen. Use this feature to quickly change only one part of an account number.

Default Cost Center

Enter a valid cost center code to be used as the default cost center for all accounts in this screen. Use this feature to quickly change only one part of an account number.

Production Order Accounts

Floor Stock

Enter the general ledger (GL) account code used to track work-in-process (WIP) stock adjustments for bulk issue items in the specified product line at the specified site. Bulk issue items are identified by setting Issue Type to Bulk in **Items** > Site panel.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

Since the cost of bulk issue items is included in the rolled-up GL cost of the finished item, WIP must be adjusted for the cost of these items. Otherwise, this cost would post incorrectly to variance.

For example, an item has a rolled-up GL (standard) cost of 10 dollars. The bulk issue components cost 1 dollar. When a production order is received and closed, a GL transaction is created as follows:

- Debit Inventory: 10
- Credit WIP: 9
- Credit Floor Stock: 1

Material Usage Variance

Enter the general ledger (GL) account code used to track material usage variances for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When you issue components to a production order, material costs post to work in process (WIP) as the quantity issued multiplied by the GL cost. When the production order is closed, usage variance can be calculated. Usage variance is calculated as the difference between the actual quantity of each component issued and the standard quantity required, multiplied by the GL cost of that component.

Material Rate Variance

Enter the general ledger (GL) account code used to track material rate variances for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When you issue components to a production order, material costs post to work in process (WIP) as the quantity issued multiplied by the GL cost of the material. Rate variance is calculated as the difference between the GL cost of materials used and the GL cost of materials required.

The GL cost of each component is copied into the production order bill when the production order is released. Rate variances occur when:

- Costs change after the production order is released.
- Substitute items are used.
- Items are issued from a different site with a different cost structure.

Mix Variance

Enter the general ledger (GL) account code used to track mix variance for co-product or by-product items in the specified product line at the specified site. When a joint order set is closed, mix variance is calculated as the difference between the standard or expected quantity and the actual quantity received, multiplied by the GL cost of that item.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

Expected receipt quantities for co-products and by-products are calculated based on the quantity complete method specified in the co/by-product structure.

Cost of Production

Enter the general ledger (GL) account code used to track indirect production costs for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

The following types of transactions update the Cost of Production (COP) account:

- Reported labor that is not associated with a repetitive schedule or a production order. This includes costs for preventive , cleanup, or meetings. The department COP account is used for repetitive downtime and shop floor nonproductive labor-feedback transactions.
- Material issues or subcontract receipts not associated with a manufacturing order. The site or product line COP account is used for unplanned issues and subcontract receipts.
- Receiving subcontract purchase orders (POs) debits the COP account. When a production order ID is associated with the PO, this posting is subsequently reversed and the purchase order price is posted to Work in Process (WIP). When work order ID is blank for the PO, the subcontract price remains in COP.

Subcontract Usage Variance

Enter the general ledger (GL) account code used to track subcontract usage variance for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When purchase orders are recorded for subcontract operations, the purchase order receipt posts the standard subcontract cost to Work in Process (WIP) and the actual subcontract expense amount to the PO Receipts account. Any variance is posted as a rate variance. When the production order is closed, a usage variance is calculated.

Usage variance is an efficiency variance, calculated as the difference between the subcontracted quantities received and the standard subcontract quantity needed to make this production order quantity complete (received or rejected). This variance can be due to yield differences or rework.

Rate variance is posted as the difference between the purchase order cost and the standard subcontract cost.

Subcontract Rate Variance

Enter the general ledger (GL) account code used to track subcontract rate variance for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When purchase orders are recorded for subcontract operations, the purchase order receipt posts the standard subcontract cost to Work in Process (WIP) and the actual subcontract expense amount to the PO Receipts account. Any variance is posted as a rate variance. When the production order is closed, a usage variance is calculated.

Rate variance is posted as the difference between the purchase order cost and the standard subcontract cost.

Usage variance is an efficiency variance, calculated as the difference between the subcontracted quantities received and the standard subcontract quantity needed to make this production order quantity complete (received or rejected). This variance can be due to yield differences or rework.

Work in Process

Enter the general ledger (GL) account code used to track work in process (WIP) inventory value for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of WIP Control Account.

WIP value is updated by component issues, labor reporting, and production order receipts. For closed orders, the accounting close functions calculate and post variances and zero out WIP.

Method Variance

Enter the general ledger (GL) account code used to track unaccounted manufacturing variances for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

The accounting close functions zero out work in process (WIP), and then calculate and post any variance amounts. Any amount remaining in WIP after material, labor, burden, and subcontract rate and usage variance amounts are calculated is posted to Method Variance.

Purchasing Accounts

This screen allows a user, such as a Cost Accounting Manager, to separately track product lines for multiple sites within the same entity. For example, you may want to track inventory purchased from different suppliers for different sites using separate accounts.

The account code is one component of an account number defined in GL setup functions. Other components of an account number are sub-account, cost center, and project. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Use accounts to track company-wide assets, liabilities, equities, expenses, and revenues.

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Operational Allocation Codes.

Accounts defined in this screen take precedence over default accounts in **Product Lines** and **Base Control** > Domain Accounts panel.

After entering the Product Line, Site, and optional Supplier Type combination, define the Purchases, Purchase Order (PO) Receipts, Overhead Applied, PO Price Variance, Accounts Payable (AP) Usage Variance, and AP Rate Variance accounts. The system accesses these accounts to track different transactions:

- The Purchases account is debited when non-inventory (expense) items are received.
- The PO Receipts account is credited and Inventory is debited when items are received.
- The Overhead Applied account is credited when standard costs include overhead in work order and purchase order receipts.
- The PO Price Variance account is updated during PO receipt when the purchase order cost of an item differs from the standard cost.
- The AP Usage Variance account is updated during receiver matching when the quantity of items received differs from the quantity on the supplier invoice.

The AP Rate Variance account is updated during receiver matching when the price on the supplier invoice differs from the purchase order price.

The system searches for GL accounts in the following order:

1. Matching product line, site, and supplier type
2. Matching product line and site with a blank supplier type

If no match is found, the account entered in **Product Lines** for the item is used as the default.

When creating a new Purchasing Account record and you enter the Product Line, the accounts in **Purchasing Accounts** and in the Consignment Accounts panel default from the settings in **Product Lines**.

Once the Purchasing Account record is created, the Product Line, Site, and Supplier Type fields cannot be modified. All other fields can be changed.

Main

Product Line

Enter or select the product line this set of general ledger accounts applies to. Product line codes identify major item and product groupings.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific product lines and sites allows you to separate the value of inventory held at different sites for financial reporting.

If you are using multiple sites to store inventory, even if they are in the same financial entity, you may want to keep inventory value separate. For example, if you have inventory in two warehouses, you may want each warehouse to appear as a different line item on your balance sheet. Tracking scrap and discrepancies by product line and site may be useful for identifying problem areas that need resolution.

Site

Enter or select the site this set of general ledger accounts applies to.

Once an account record is created, this field cannot be modified.

Assigning general ledger accounts to specific product lines and sites allows you to separate the value of inventory held at different sites for financial reporting.

If you are using multiple sites to store inventory, even if they are in the same financial entity, you may want to keep inventory value separate. For example, if you have inventory in two warehouses, you may want each warehouse to appear as a different line item on your balance sheet. Tracking scrap and discrepancies by product line and site may be useful for identifying problem areas that need resolution.

Supplier Type

Optionally specify a valid, active supplier type code for selecting records.

Use type codes to classify suppliers; for example, use SUB for subcontractors or RAW for raw material suppliers. Then, use type to

select groups of suppliers for reporting, in particular for supplier and accounts payable reports.

Create supplier type codes in **Supplier Types** and associate them with suppliers in **Suppliers**.

Defaults

Use the Default Sub-Account and Default Cost Center fields to enter the same sub-account code or cost center code for all accounts associated with a combination of product line, site, and supplier type.

- When you click Apply, the system overrides sub-account and cost center codes with the values entered in the Default Sub-Account and Default Cost Center fields.
- If you do not click Apply, the system ignores any values entered in Default Sub-Account and Default Cost Center fields.

The account values can be modified after the defaults are applied.

Default Sub-Account

Enter a valid sub-account code to be used as the default sub-account for all accounts in this screen. Use this feature to quickly change only one part of an account number.

Default Cost Center

Enter a valid cost center code to be used as the default cost center for all accounts in this screen. Use this feature to quickly change only one part of an account number.

Purchasing Accounts

Purchases

Enter or select the general ledger (GL) account code used to track non-inventory purchase expenses for items in the specified product line at the specified site. This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

This account is used only for memo purchases, which are directly expensed, not inventoried, such as repairs. They are indicated by a line type of M (memo). When purchase orders for memo items are received, a GL transaction debits the Purchases account and credits Expensed PO Receipts.

PO Receipts

Enter the general ledger (GL) account code used to track accrued purchase order receipts of inventory items in the specified product line at the specified site. This must be a valid, active account defined in **GL Accounts** with a GL Type of System Account.

Accounts defined in this function take precedence over default accounts in **Product Lines** and **Base Control** > Domain Accounts panel. However, you can also associate a PO Receipts account with

a supplier in **Suppliers** > Supplier Domain Settings > Accounts panel. When a supplier account is defined, it is used in preference over any other account.

Use this account for items that have been received into inventory but have not yet been matched with a supplier invoice, representing an accrued liability. When inventory is received, the system updates the inventory balance and accrues the amount payable. It also applies any overhead and calculates purchase price variance.

If you are using multiple currencies, specify an account set up in base currency to ensure accurate reporting.

Applied overhead amounts are calculated on both manufacturing and purchase order receipts. Any amount in the overhead cost category is multiplied by the quantity received and posted to the Overhead Applied account.

Applied overhead is always posted prior to calculating manufacturing method variance or purchase price variance. For example, an item has a GL (standard) cost of 10 cents per unit (9 cents material and 1 cent overhead). If you receive 100 units at a PO cost of 11 cents per unit, the system creates the summarized GL entry:

- Debit Inventory: 10
- Debit Purchase Price Variance: 2 (11-9)
- Credit PO Receipts: 11
- Credit Overhead Applied: 1

Overhead Apply

Enter the general ledger (GL) account used to track applied overhead for items in the specified product line at the specified site.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

Applied overhead amounts are calculated on both manufacturing and purchase order receipts. Any amount in the overhead cost category is multiplied by the quantity received and posted to the Overhead Applied account.

Applied overhead is always posted prior to calculating manufacturing method variance or purchase price variance. For example, an item has a GL (standard) cost of 10 cents per unit (9 cents material and 1 cent overhead). If you receive 100 units at a PO cost of 11 cents per unit, the system creates the summarized GL entry:

- Debit Inventory: 10
- Debit Purchase Price Variance: 2 (11-9)
- Credit PO Receipts: 11

- Credit Overhead Applied: 1

PO Price Variance

Enter the general ledger (GL) account code used to track any purchase price variances (PPV) for items in the specified product line at the specified site. PPV is the difference between the standard cost of the item and the purchase order cost.

This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

When a purchase order is received, both purchase price variance and overhead applied are posted as:

- PPV = [(Total GL Cost - GL Overhead) - PO Cost] * Qty Received
- Overhead Applied = GL Overhead * Qty Received

Applied overhead amounts are calculated on both manufacturing and purchase order receipts. Any amount in the overhead cost category is multiplied by the quantity received and posted to the Overhead Applied account.

Applied overhead is always posted prior to calculating manufacturing method variance or purchase price variance. For example, an item has a GL (standard) cost of 10 cents per unit (9 cents material and 1 cent overhead). If you receive 100 units at a PO cost of 11 cents per unit, the system creates the summarized GL entry:

- Debit Inventory: 10
- Debit Purchase Price Variance: 2 (11-9)
- Credit PO Receipts: 11
- Credit Overhead Applied: 1

AP Usage Variance

Enter the general ledger (GL) account code used to track accounts payable (AP) usage variances for inventory items in the specified product line at the specified site. This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

AP variances are split into two components: rate variances and usage variances. Rate variances arise when the price charged by the supplier on the invoice is different from the price quoted on the purchase order. Usage variances arise when the quantity billed on the invoice is different from the quantity received.

For example, a PO is issued for 100 units of an item at 11 cents each, but the invoice specifies 110 at 15 cents each. The system creates the following GL entry:

- Debit AP Rate Variance: 4.40
- Debit AP Usage Variance: 1.10

- Debit PO Receipts: 11.00
- Credit Accounts Payable: 16.50

AP Rate Variance

Enter the general ledger (GL) account code used to track accounts payable (AP) rate variances for inventory items in the specified product line at the specified site. This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account.

AP variances are split into two components: rate variances and usage variances. Rate variances arise when the price charged by the supplier on the invoice is different from the price quoted on the purchase order. Usage variances arise when the quantity billed on the invoice is different from the quantity received.

For example, a PO is issued for 100 units of an item at 11 cents each, but the invoice specifies 110 at 15 cents each. The system creates the following GL entry:

- Debit AP Rate Variance: 4.40
- Debit AP Usage Variance: 1.10
- Debit PO Receipts: 11.00
- Credit Accounts Payable: 16.50

Consignment Accounts

Use the Customer Consignment subpanel to set up account, sub-account, and cost center codes for managing consigned inventory. You can define accounts to track inventory that is:

- Received from your supplier and resides at your facility
- Received but invoicing is deferred (offset)

If you do not enter accounts for specific sites and supplier types, the system uses the default consignment accounts from **Product Lines**.

PO Consigned Inventory

Enter the general ledger (GL) account code used to track expenses for consigned inventory that has been received. This must be a valid, active account defined in **GL Accounts** with a GL Type of Inventory Control Account.

The account code defined in Domain/Account Control defaults to Product Lines, which in turn defaults to Purchasing Accounts. The system always looks for the most specific record first.

The account code defined in **Base Control** > Domain Accounts panel > Consignment Accounts subpanel, which in turn defaults to **Purchasing Accounts**. The system always looks for the most specific record first.

PO Consigned Offset

Enter the general ledger (GL) account code used to track deferred expenses for consigned inventory that has been received. This must be a valid, active account defined in **GL Accounts** with a GL Type of Inventory Control Account.

The account code defined in **Base Control** > Domain Accounts panel > Consignment Accounts subpanel, which in turn defaults to **Purchasing Accounts**. The system always looks for the most specific record first.

Inventory Transactions

Inventory Transactions includes the following information:

- Information about the inventory history transaction
- Information about how inventory was impacted
- Information about how GL was impacted with unit and extended costs

Main

Transaction

Each transaction history record is uniquely identified by a transaction number, assigned by the system. Use transaction numbers to select and sort information on reports and inquiries. Transactions usually appear in descending sequence by date and transaction number.

Transactions are assigned sequentially across the entire database. When a database has multiple active domains, transaction numbers within a domain may appear to have gaps because of the numbers assigned in other domains.

The system automatically assigns transaction numbers beginning with 1. Once the number reaches 99999999, the system resets the number to 1 and starts over. If you have deleted some, but not all, transaction history, the system only assigns unused numbers. Duplicate numbers cannot occur.

Transaction Type

Transaction type codes identify the source of an inventory transaction record maintained in transaction history. The system also uses them to determine records to display on reports. For example, a Sales Booking Report only includes booking transactions of type ORD-SO. Item and inventory status codes can restrict inventory transactions by type code.

Date

The default is the system date. The date this transaction was processed.

Transaction date can be used for selecting information to appear on reports and inquiries, and for deleting and archiving transaction history.

The date of the transaction may differ from the Effective Date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end, these are often different. For example, if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday’s date but the entered date is Monday’s date.

Time

The time this transaction was processed.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances. A work order does not increase the balance in the general ledger inventory account until this effective date. Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the Effective Date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end, these are often different. For example, if the period ends on Friday, but you are still processing receipts on Monday, you may set the effective date to Friday's date but the entered date is Monday's date.

Remarks

Any remarks associated with this transaction. Usually, these identify the source or the reason for the transaction. For example, remarks can indicate the document number associated with an unplanned transaction. When transactions are recorded in other modules, such as sales, the system sometimes stores information (the packing list or invoice number) in the Remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

User ID

The system records and displays the ID of the user who processed this inventory transaction.

This Reference field appears on selected reports and inquiries.

Program

The Progress program that created this transaction history record. For example, an unplanned issue transaction history record (ISS-UNP) is created by the program icunis.p.

This field is for reference only and may appear on some selected reports and inquiries.

Currency

This field displays the currency code associated with this inventory transaction. Currency codes identify monetary units and form the basis of exchange rate relationships.

Each domain has a base currency. You can specify foreign currencies during sales, purchasing, service, and accounting transactions. Each

currency must be predefined and a valid exchange rate must exist for the transaction effective date.

When transactions are processed in non-base currency, the currency code and exchange rate are maintained in transaction history along with the price. This lets you review prices in terms of your company base currency or the foreign currency. Costs are always stated in your company base currency. Only prices can be held in another currency.

Shipper

The identifying number that represents the shipper associated with this transaction. The combination of supplier and shipper ID uniquely identifies a shipper record.

Ship Date

This is a system-maintained field that records the last date a shipment was processed for this order. Invoices and commission reports may be printed for a range of ship dates. The default is the effective date entered on the shipment transaction, which is normally the system date.

Inventory Movement Code

Inventory movement codes assigned by the system include the following:

Inventory Movement Code	Description
CST-ADJ	Cost Adjustment
CUM-RADJ	Cumulative Received Adjustment
CUM-RRES	Cumulative Received Reset
CUM-SADJ	Cumulative Shipped Adjustment
CUM-SRES	Cumulative Shipped Reset
CYC-CNT	Cycle Count Adjustment
CYC-ERR	Cycle Count Error
CYC-RCNT	Cycle Count Recount
ISS-CHL/RCT-CHL	Change Inventory Detail
ISS-DO/RCT-GIT	Distribution Order Shipment
ISS-GIT/RCT-DO	Distribution Order Receipt
ISS-FAS/RCT-FAS	Final Assembly Order
ISS-PRV	Purchase Return to Supplier
ISS-RV	Inventory Return to Supplier

Inventory Movement Code	Description
ISS-SO	Sales Order Shipment
ISS-TR/RCT-TR	Inventory Transfer
ISS-UNP/RCT-UNP	Unplanned Issue/Receipt
ISS-WO/RCT-WO	Work Order Issue/Receipt
ORD-PO	Purchase Order Booking
ORD-SO	Sales Order Booking
ORD-SEO	Material Order Booking
PLCG-ADJ	Product Line Change
RCT-PO	Purchase Order Receipt
RCT-RS	Inventory Return to Stock
RCT-SOR	Inventory Sales Order Return
RJCT-WO	Work Order Reject
TAG-CNT	Physical Inventory Update
WIP-ADJ	Work in Process Adjustment
WO-CLOSE	Work Order Close

Order

The order number associated with this inventory transaction.

When an unplanned inventory transaction is processed, you can manually enter an order number for the record. When an inventory transaction is processed in another module, such as sales, the order number remains in transaction history.

Some reports and inquiries can be selected by order number. Order number may be a sales order number, work order number, purchase order number, RMA/RTS number, or any other user-defined value.

Note An order number entered on an unplanned inventory transaction is for reference only. The system does not access this information from other modules. For example, if you enter a work order number on an unplanned issue, it does not appear on the Work Order Cost Report.

ID

The lot identification number associated with this inventory transaction.

Throughout the system, lot ID numbers uniquely identify the source of inventory transactions, allowing complete lot/serial number traceability. The system usually assigns a unique lot ID number to sales and

purchase orders. You may manually assign lot ID numbers to work orders or let the system assign them.

Some reports and inquiries may be selected by lot ID.

Order Revision

The revision number of the order associated with this inventory transaction. Each time a purchase order or sales order is changed, the revision number can be increased by 1. This field is for reference only and may appear on some selected reports and inquiries.

Line

Identifies the order or pending invoice line number associated with this transaction.

Item

The item code associated with this inventory transaction. This can be a new item to receive or an item that is not normally expected for a base process or a joint work order set.

Item codes uniquely identify items or products such as raw materials, purchased or manufactured intermediates, finished items, packaging materials. Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Transaction history is maintained by, and all reports can be selected by, item code. Usually, this is an inventory item, so beginning and ending inventory balances are maintained. Transactions can also be entered for non-inventory items such as invoices for services or purchases of miscellaneous supplies. These are indicated by a transaction type M for memo, and do not affect inventory balances.

Description 1

The primary description of the item (up to 24 characters) associated with this transaction. You can supply two lines of description.

You can use the primary description to look up item codes. The first description line appears on all reports, inquiries, and printed documents.

The second line of description provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Description 2

The second line of description of the item associated with this transaction. Provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Unit of Measure

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in the Generalized Codes view, if any.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in the UM Conversions view. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in the UM Conversions view, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Price

This field displays the price or cost associated with this inventory transaction. Costs are in base currency. Prices are in the transaction currency, which can be a foreign currency.

Currency codes identify monetary units and form the basis of exchange rate relationships. Each domain has a base currency. You can specify foreign currencies during sales, purchasing, service, and accounting transactions. Each currency must be predefined and a valid exchange rate must exist for the transaction effective date.

When transactions are processed in another currency, the currency code and exchange rate are maintained in transaction history, along with the price. This allows you to review prices in terms of your company base currency or the foreign currency.

Price prints on most transaction reports and inquiries, in particular Sales Bookings and Purchase Transaction reports.

Prices are most important for sales orders, service/support orders, and purchase orders. This records the price you charge the customer or the price the supplier charges you. A negative price indicates a credit. Manufacturing and inventory activities not associated with an order normally store the total GL cost in base currency in the price field.

Address

An optional address code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier. This field is not displayed for scrap transactions.

The Address Name is displayed to the right of the Address field. The address name is the name associated with this address—normally, the company name (The ABC Company) or the individual's complete name (Mr. David Green).

When an unplanned inventory transaction or inventory transfer is processed, you can manually enter an address code for the record. When an inventory transaction is processed in another module, such as sales, the customer address code is kept in transaction history.

This field is for reference only and may appear on some selected reports and inquiries. Some reports and inquiries may be selected by address code.

Sales Order Job

An optional sales/job number associated with this transaction. This field is not displayed for scrap transactions.

When an inventory transaction is processed in the Purchasing or Work Order modules, the sales/job number entered on the order remains in transaction history. When an unplanned inventory transaction or inventory transfer is processed, you can manually enter a sales/job number for the record.

This field is for reference only and may appear on some selected reports and inquiries. Some reports and inquiries may be selected by sales/job number.

Sales/job numbers can be referenced on sales orders, purchase orders, work orders, and inventory transactions so you can review the progress of all activities associated with a particular sales order, contract, or job number. Sales/job numbers are not validated and have no GL affect.

Ship Type

The ship type associated with this transaction. Ship Type indicates whether shipments of this item are to affect inventory balances. Type defaults from Memo Order Type field in the Items view, if defined for the order line site. If the item is not defined, type defaults to M (memo). This field is not displayed for scrap transactions.

If Blank, this line item ships from inventory. When the shipment is processed, inventory balances are decreased, a general ledger (GL) transaction credits the Inventory account, and forecast is consumed.

If Non-blank, this shipment does not affect inventory, does not create a GL Inventory transaction, and does not consume forecast. While a non-

blank ship type prevents the update of the Inventory account, Accounts Receivable (AR) balances are updated, regardless of the ship type.

This field is validated against codes defined in the Generalized Codes view for field sod_type. You cannot modify this field after a quantity has been shipped or invoiced.

Reason

The reason code for the scrap transaction. A short description of the reason code is displayed to the right of the reason code. The Reason field is only displayed for scrap transactions.

Employee

The employee code of the person who created the inventory scrap transaction. This field is only displayed for scrap transactions.

Authorization Document

The ID number for the document that authorizes the scrap transaction. Some reports and inquiries can be selected by document ID number. This field is only displayed for scrap transactions.

Inventory

Site

The site at which this inventory transaction was processed.

Site codes identify areas where inventory is manufactured or stored, such as, an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually, each site is split into multiple locations, where the inventory is actually stored, so you may think of a site as a group of physical locations such as stockrooms, inspection stations, shop floors.

Location

The location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored. Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

The lot/serial number that applies to this line item.

Reference

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities.

Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

Inventory detail information is stored by Item Number, Site, Location, Lot/Serial, and Ref number. Details kept for each combination include the quantity on hand and inventory attributes such as Assay %, Grade, Expire Date, and Status Code.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using the Inventory Detail view. PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Supplier Lot

The external lot number provided by the supplier/vendor for the item associated with this transaction.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking

ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes —Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view. They can also be changed in Multi-Lot Inventory Detail Update in the Regulatory Attributes module.

Assay Percentage

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes—Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view.

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Items view
- For the item in the Items view

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity

to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in Inventory Control. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next five days.

You can modify inventory attributes such as expire date, grade, assay %, and inventory status using:

- Inventory Detail view

Batch

Batch numbers are used to group and categorize work orders. A group of work orders that is run through a single manufacturing process can be assigned the same batch number.

The Batch number field is stored in the work order master and in transaction history. This field is for reference and tracking.

One batch number can be assigned to many work orders. You can use the batch number to report on a group of work orders. Some functions use batch number as the only index for reports or inquiries.

Begin Balance

The inventory balance of the item in all locations at the site before the transaction was processed.

Quantity Change

The total quantity processed on this inventory transaction.

On a shipment, issue, or transfer, the quantity taken out of stock. On a purchase order or a work order receipt, the quantity received into stock.

The beginning quantity on hand, transaction quantity, and transaction type can help track problems, such as cycle count errors. You can review the inventory transactions for an item and the effect of each. If the ending quantity is equal to the beginning quantity on hand, check the transaction type. It must have been processed as a non-inventory transaction and may be the source of your error.

This field is only updated when an item exists in the item master and the inventory transaction was processed at a nettable location. If the location status is non-nettable, only the tr_loc_chg is updated.

End Balance

The inventory balance of the item in all locations at the site after the transaction was processed.

Begin Location Balance

The inventory balance of the item, lot number, and reference in the specified site and location before the transaction was processed.

Location Quantity Change

The quantity processed on this inventory transaction applying to this site and location.

On a shipment, issue, or transfer, the quantity taken out of stock. On a purchase order or work order receipt, the quantity received into stock.

The beginning quantity on hand, transaction quantity, and transaction type can help track problems, such as cycle count errors. You can review the inventory transactions for an item and the effect of each. If the ending quantity is equal to the beginning quantity on hand, check the transaction type. It must have been processed as a non-inventory transaction and may be the source of your error.

This field is only updated when an item exists in the item master and the inventory transaction was processed at a nettable location. If the location status is non-nettable, only the tr_loc_chg is updated.

End Location Balance

The inventory balance of the item, lot number, and reference in the specified site and location after the transaction was processed.

Quantity Required

The total quantity required before this inventory transaction was processed.

When an inventory transaction is processed in another module, the system tracks the original quantity required, the transaction quantity, and the quantity short. For example, if this is a sale order shipment:

- The quantity required is the open order quantity.
- The transaction quantity is the quantity shipped.
- The quantity short is the difference.

This field is for reference only and may appear on some selected reports and inquiries. Useful for comparing what was needed or expected with what was transacted.

Quantity Short

Any shortage associated with this inventory transaction.

When an inventory transaction is processed in another module, the system tracks the original quantity required, the transaction quantity, and the quantity short. For example, if this is a sale order shipment:

- The quantity required is the open order quantity.
- The transaction quantity is the quantity shipped.

- The quantity short is the difference.

This field is for reference only and may appear on some selected reports and inquiries. Useful for comparing what was needed or expected with what was transacted.

GL Cost

Material

The material cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Labor

The labor cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Burden

The burden cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Overhead

The overhead cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Subcontract

The subcontract cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Unit Cost

The total cost of the item associated with this transaction. The cost total equals the sum total of the material, labor, burden, overhead, and subcontract costs.

Extended Material

This cost is calculated by multiplying the Material cost by Location Quantity Change.

Extended Labor

This cost is calculated by multiplying Labor cost by Location Quantity Change.

Extended Burden

This cost is calculated by multiplying Burden cost by Location Quantity Change.

Extended Overhead

This cost is calculated by multiplying Overhead cost by Location Quantity Change.

Extended Subcontract

This cost is calculated by multiplying Subcontract cost by Location Quantity Change.

Extended Cost

This cost is calculated by multiplying Cost Total by Location Quantity Change.

Accounts

The Accounts grid displays GL transaction data related the selected transaction, including the GL Transaction Type, Account, Sub-Account, Cost Center, Project, BC (Base Currency) Debit, BC Credit, GL Reference, and Reference ID.

Note The Entity Code in the Accounts panel always displays based on the site in the transaction.

E-Signature

Date

The date the e-signature was created.

Time

The time the e-signature was created.

User

The user who signed the e-signature.

Event ID

The system automatically assigns a unique event ID each time an electronic signature is created.

Category

A category is a QAD-provided definition of a set of system data that can be signed as a unit in certain menu programs. For example, it identifies a set of tables and fields, as well as the menu program or programs from which this data can be signed.

Because records in a given database table can be updated by more than one program, a category can be associated with more than one menu program. Conversely, a program can update more than one table; multiple categories can apply to a single menu program.

For example, the Operation History category (0003) generates signatures for tables and fields that store operation history information. Since these tables can be updated from several Shop Floor Control programs, several programs are included in the category. Because those same programs can also update records associated with quality results, they are included in the Quality Results category (0002) as well.Users cannot update category definitions. Instead, QAD provides

a default profile for each category. You can refresh the workbench profiles with these defaults and modify them based on the specific needs of your environment.

Category definitions include a default set of filters that can be used to determine whether a signature is required based on a given value for a site, item number, or other data element. Although filters are defined for each category, their use is optional; control how filters apply to your implementation by updating the category profile using the workbench.

For more information, see *QAD Security Administration Guide*.

Reason

The signature reason code is a critical element of the electronic signature. In regulatory environments, the signature record typically must include the meaning of the signature. The system uses reason codes to provide the meaning.

Each time the system prompts for an electronic signature, the user must provide a valid reason code. For example, reason codes might indicate that a quality record has been approved, reviewed, or inspected.

Use the Reason Codes view to define signature reason codes that are appropriate to your environment.

Note All reason codes used by electronic signatures must be associated with the QAD-provided ESIG reason type. Reasons of any other type cannot be entered in the signature prompt frame.

Remarks

Additional remarks that the user can optionally add while entering electronic signature data.

WIP Lot Trace

The WIP Lot Trace grid displays WIP lot trace data for the inventory transaction, including Produced/Consumed, Item, Item Description, Lot/Serial, Reference, Quantity, and Unit of Measure.

Serialization Setup

Setting Up Master Data

Using license plate inventory management and item serialization screens, you can define which items require item serialization and license plate inventory management. You define the serial sequence number format and rules for the system to assign numbers. Serials are sequential.

The format and rules help you to comply with standard formats used in the industry. You can assign specific number formats or number ranges by:

- Domain
- Site
- Customer or supplier
- Item-BOM code
- Packaging type for both serialized and non-serialized items

Dual Serials Supported

In some use cases, manufacturers are required to use serials that fit a specific format, such as guidelines where serials are limited to eight or nine digits or where serials cannot be repeated for at least one year. In some of these cases, suppliers provide manufacturers with their specific serials, or customers require manufacturers to deliver serials according to a specific format. QAD Serialization expects each serial to be unique within the database, across all domains. When you have multiple suppliers and customers across multiple sites and/or domains, the risk of providing duplicate serials can be very high.

To prevent the possibility of having items with duplicate serials, the system allows an item to have two serials that are linked. In this case, an item can have an internal serial that is linked to an external serial and an origin code.

The external serial, which can be specified in **Serials**, is an external serial number provided by the supplier.

The origin code is a supplier-provided code that is defined in **Serial Ranges** and that is uniquely related to the site and supplier combination.

The internal serial is the serial automatically generated by the system, as defined in **Number Ranges**, or one of the external serials that was imported using **Serial Ranges**.

By having the internal serial linked to the external serial and origin code, you can use the specific supplier or customer serial to perform package handling. Even if supplier or customer serials are duplicated, those serials are always linked to unique internal serials.

Define Serialization Control Settings

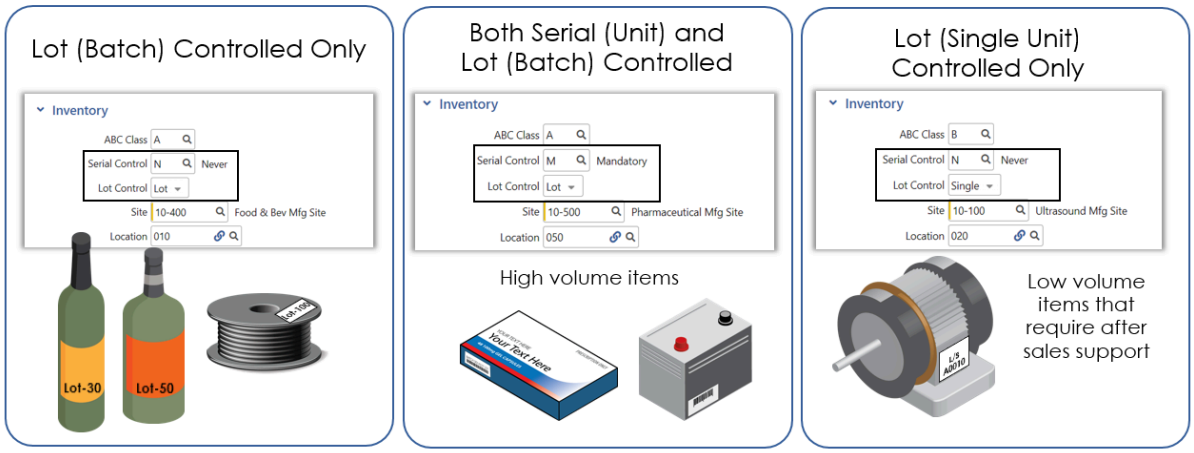
Use **Inventory Control** > Serialization panel to define the following control settings for the Serialization app:

- Enable Serialization functions.
- Set control options that prevent the system from generating too many serials at the same time.
- Define if serialization is activated for the shipping process, either for the whole domain or for specific sites.

For more information, see Serialization on page 2905.

Serial and Lot Control Settings for Items

When setting up Serialization, you must determine which items are tracked and traced using item serialization and/or supplier or production lot numbers.



In **Items**, use the Serial Control and Lot Control fields to set the serial and lot control for specific items.

Important fields in **Items** include:

- **Serial Control**. Define whether this item must be serialized:
  - **M (Mandatory)**. Each item in the inventory requires a serial. The default is M (Mandatory).
  - **N (Never)**. This item is not serial controlled, but the pack containing this item can have a serial.
- **Lot Control**. The value of Lot Control for the item determines if a lot or serial number is required. The value entered in this field is used as the default for all sites. Set up site-specific values in the **Items** > Site Inventory Exceptions panel.
  - **Blank**. Lot/serial numbers are not required, although they can be recorded as needed. When Serial Control is set to M (Mandatory)

and Lot Control is blank, the system generates item serials; however, it is not mandatory that you enter the lot number.

- **Lot**. Lot numbers are required for this item. During issues and receipts, a lot number must be entered. The lot number applies to the entire transaction quantity entered.

  When set to Lot and:

  - Serial Control is set to M (Mandatory), the item requires both an item serial and a lot number, so that each inventory item has a serial and the items can be of the same lot.
  - Serial Control is set to N (Never), the system does not create an item serial for the item; however, you can still pack it in a serialized pack. You must enter a lot number.

- **Single**. When set to Single lot, the lot is limited to having a maximum quantity of one (1). During issues and receipts, the maximum quantity for each lot is a quantity of one. For example, when you receive 10, you must enter 10 lot numbers with a quantity of one each.

  The Single lot feature allows inventory to be tracked and traced by each unique unit produced. It is an option for serialized inventory and is useful for low-volume inventory, such as larger items that require after-sales support (installed bases using the SSM module) or that require specific attribute characteristics to be tracked and traced for each unit. In cases with high-volume products in which the batch number (lot number) must be tracked and traced and you need to uniquely identify each single unit, the serial control M (Mandatory) option is preferable.
  Users must choose either one of these options when inventory is serialized. When the Serial Control field is set to M (Mandatory), you cannot set this field to Single. Conversely, when you set Lot Control to Single, you cannot set Serial Control to M (Mandatory).

The system maintains complete lot/serial number traceability. Lot Trace Workbench lists all the lot/serial numbers of components and raw materials used to make a given lot/serial number.

For more information about these fields, see Items on page 635.

Set Up Number Ranges

Use **Number Ranges** to define the serial format and range for items and packs and to specify if the serial is generated from the system or imported from external sources.

Important fields include:

- **Sequence ID**. Indicate the sequence ID for the serials.

- **Target Dataset**. Set this field to serial_id. For the serial_id target dataset, you can use alphanumerical sequence numbers by selecting the CHAR type.
- **Internal**. Indicate whether the serials are generated internally or imported from external sources.

For more information, see Number Ranges on page 962.

Setting Up Serial Ranges

Use **Serial Ranges** to define different serial ranges and specify which serial range to use. You can set up a range of serials by site, address, item number, or pack code.

You can also use **Serial Ranges** to do the following:

- Import serials from external sources.
- Remove imported serials as long as they have not been used.
- Export serials as Excel (.xlsx), Comma-separated (.csv), Tab-separated (.tsv), Tab-delimited (.txt), or PDF Document (.pdf) file types.
- Delete a serial range, as long as no serials in the list have been used and the range itself has not been used in **Serial Ranges**.
- Customize a serial range to include a custom segment in the **Number Ranges** record to satisfy specific logistics requirements.

For more information, see Serial Ranges on page 3054.

Setting Up Packaging

To capture information on how goods are packaged and the quantity of each pack, QAD Serialization functions provide a way to create, maintain, and retrieve packaging master data records. Serialization functions automate the process of receiving inventory for either inbound receipts or manufactured goods and the capture of the multilevel packaging data for tracking purposes. These functions also automate the process of issuing materials either for shipments or to production.

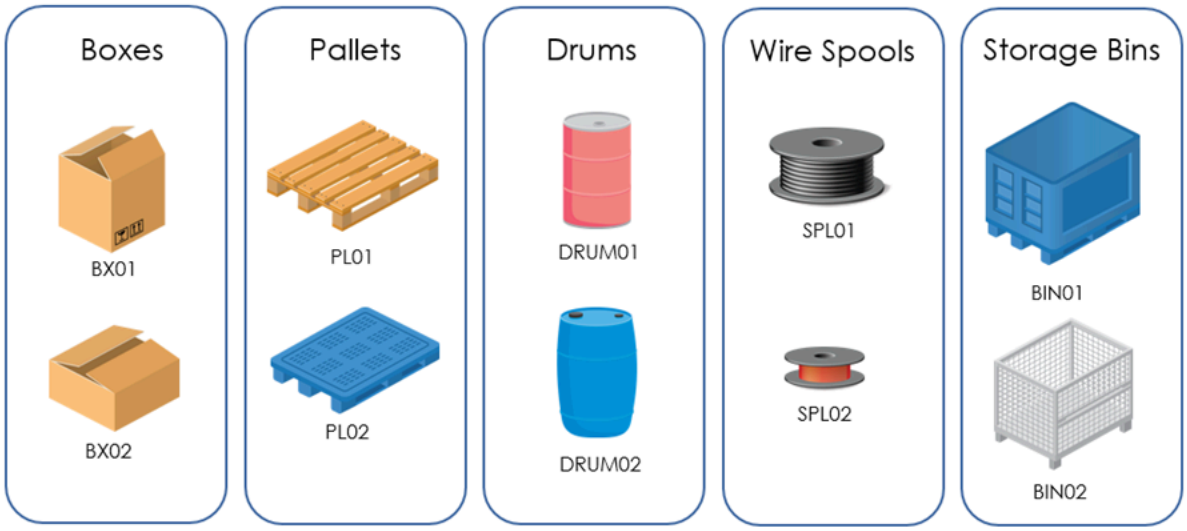
Packaging master data tracks how many units go into a unit pack and how many packs can be assembled onto a next-level packaging type. To capture information on the number of units that go into a unit pack and the number of packs that can be assembled on a higher-level packaging, Serialization functions let you define:

- Pack codes
- Bill of packaging structure by:
  - Item
  - Source (ship-from, site)
  - Destination (ship-to site)

Set Up Pack Codes

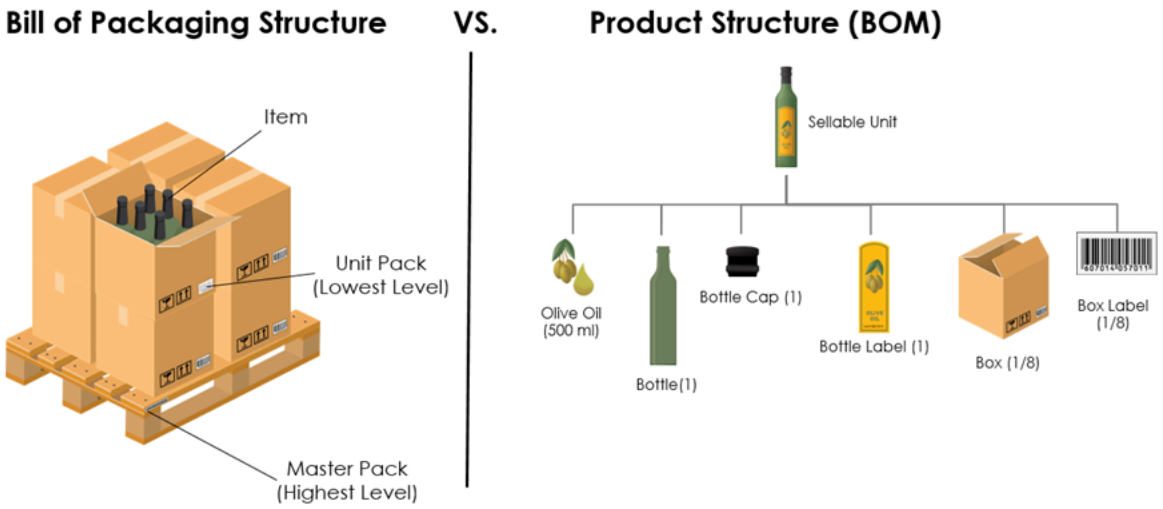
Use **Pack Codes** to create pack codes for any type of packaging.

Pack codes define the way items and inventory are stored to facilitate warehouse and logistics activities. You can create pack codes from the lowest-level pack up to the top-level pack, such as a small box, a large carton, a pallet, and a shipping container. For more information, see Pack Codes on page 3064.



Set Up Bill of Packaging (BOP) Structures

Use Packaging Structures to define a bill of packaging (BOP) structure. The BOP structure defines how many packing units are required for each level. You can define different packing types, such as pallet, shipper, or cartons. You can also assign the UM and define the number of units of lower-level pack types that the top-level packaging type contains.

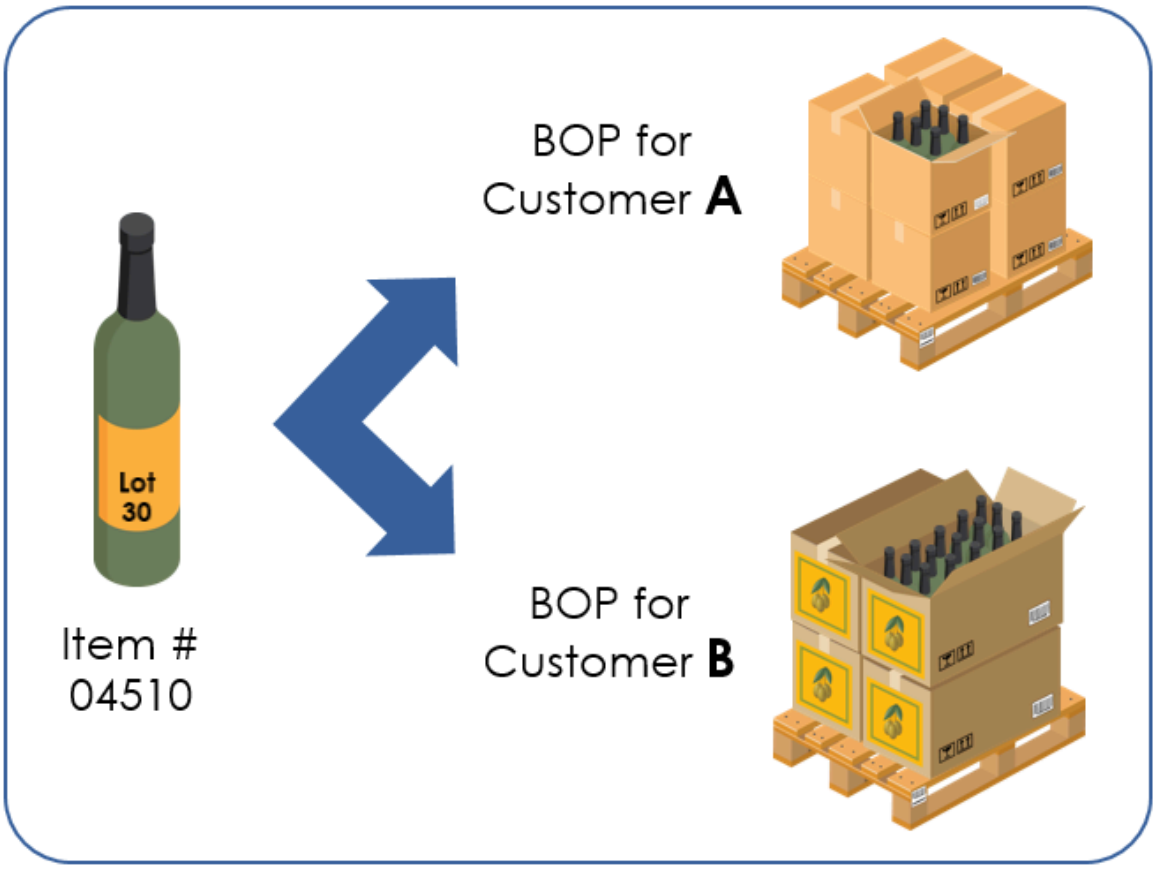


Creating this BOP structure lets the system track how packs are aggregated (quantities per pack) and how serials are assigned to each produced or received pack. This feature helps the process of aggregating and commissioning packs during receipt. Once you receive packs in stock packs, you can build, remove, open, decommission, and so on. For more information about setting up BOP structures, see the *QAD Serialization User Guide*.

Set Up Item Packaging Assignments

BOPs can be generic and you can reuse them for many items; or, they can be specific to an item or item BOM code. You can use different BOP codes for the same item when shipping to multiple partners that have slight variations in packaging requirements. You can assign packaging or BOP codes by item, partner, and more. You can assign them during receipt.

Use **Item Packaging Assignments** to link a bill of packaging (BOP) with items, sites, addresses, and transaction types. For example, if you have different customers that require different packaging for the same item, you can use **Item Packaging Assignments** to specify which BOP to use for each customer. For more information, see Item Packaging Assignments on page 3075.


Lot
30
Item #
04510
BOP for
Customer A
BOP for
Customer B

Serials

The **Serials** screen allows you to perform the following functions:

- You can view detailed information on serialize inventory.
- After the serialized inventory has been created, you can update serial attributes that do not impact the packaged inventory data. For example, this function allows you to make corrections to the pack quantity or the packaging UM if it was entered incorrectly during the Create Pack transaction.
- You can update fields such as Supplier Lot, Commission Date (could be used for FIFO picking suggestions), External Serial, and Origin Code. When updating a serial record, the system generates a serial history transaction to ensure full traceability of any change made.

Processing Serialized Inventory

From the Action menu, you can perform the following transactions to process serialized inventory:

- **Build Pack**. See Build Pack on page 2971.
- **Bulk Transfer Pack**. See Bulk Transfer Pack on page 3031.
- **Change Serial Stage**. See Change Serial Stage on page 2977.
- **Commission Pack**. See Commission Pack on page 2979.
- **Create Pack**. See Create Pack on page 2988.
- **Decommission Pack**. See Decommission Pack on page 2982.
- **Issue Unplanned Pack**. See Issue Unplanned Pack on page 2989.
- **Merge Pack**. See Merge Pack on page 2996
- **Receive Unplanned Pack**. See Receive Unplanned Pack on page 3015.
- **Remove Pack**. See Remove Pack on page 2998.
- **Repackage Pack**. See Repackage Pack on page 3002
- **Scrap Pack**. See Scrap Pack on page 3005.
- **Split Pack**. See Split Pack on page 3011.
- **Transfer Pack**. See Transfer Pack on page 3026.

Changing the Stage of Multiple Packs

The **Serials** screen also provides users the ability to change the stage of muttiple packs at once. To do this, filter for the serials using the **Serials** browse filters. Then select the **Multiple Pack Stage Change** report from the > Drill Down Links menu. The Multiple Pack Stage Change report opens. Then use the report fitlers to select the group of serials and then run the report.

Drill Down Links Menu

The Drill Down Links Menu provides you with links to browses and reports, which when selected, are dislayed in the Serials window. Optionally, you can drill down into the associated browse or report to view additonal data, pre-filtered for the asssociated serial.

- **Browses**
  - **Inventory Detail**. Select to view the Inventory Detail browse. Use this browse to review or modify the regulatory attributes for items held in inventory at a particular site and location.
  - **Inventory Transactions**. Select to view the Inventory Transactions browse, which displays detailed inventory transaction history records ordered by transaction number.
  - **Item Descriptions**. Select to view the item descriptions associated with the serial.
  - **Lot Trace Workbench**. Select the open Lot Trace Workbench, which is a powerful integrated data analysis browse that allows the user to track materials by lot, item number, or serial number, backward and forward through the production process. For more information about using Lot Trace Workbench, see . User Lot Trace Workbench
  - **Order Information**. Select this option to view any associated sales order information.
  - **Serial History**. Select Serial History to view the transactions that were generated when the serial was processed through the system.
  - **View Downstream Pack**. When a master pack serial is selected, the View Downstream Pack browse displays all the serials that are contained in the pack.
  - **View Upstream Pack**. When you select a serial, the View Upstream Pack displays all the serials up to the master pack.
- **Reports**
  - **Multiple Pack Stage Change**. Select to open the Muliple Pack Stage Change report, which allows you to change the stage of multiple non-active packs at once.
  - **Serialized Inventory**. Select the Serialized Inventory report to view the serial stage and inventory information, such as Quantity on Hand, Quantity in Pack, and Loose Quantity.

Main

Serial

The serial of the parent pack.

Stage

The current stage of the pack.

Serial stages are codes used to track the current situation of a serial number before, during, and after inventory processing. These codes include system- and user-defined codes for active serial numbers related to stock in inventory. The system stores serial ID ranges and other serial data independently from lot detail data and inventory transaction history.

Item

The item number contained in the pack.

Quantity In Pack

The quantity of items in the pack.

Site

The site where the pack was received.

Location

The location where the pack was received.

Lot/Serial

The lot/serial of the pack.

Reference

Displays any reference information related to the serial.

Serial Data

Commission Date

Enter the date and time when the pack was commissioned or received/built. The commissioned date is useful when inventory is not lot controlled or batches of a single lot contain many serialized packs and you require the ability to pick/issue inventory by pack ID using FIFO picking logic.

The Commission Date/Time field allows you to capture the data/time a pack or serial item unit was received/built or created. Currently, this field can only be updated using Serial Data and Update Commission Date —a utility that allows you to enter a commission date for serials that do not have a commission date/time assigned.

Pack Code

The pack that the item is packaged in.

Standard Pack Quantity

The number of items in the pack.

Supplier Lot

The lot number provided by the supplier.

External Serial

The external serial number provided by the supplier. External Serial and Origin Code serve as an extension for the serial master, which allows cross-linking to a single internal serial. You can retrieve the External Serial value from existing browses and reports so that you can efficiently track and trace packaged inventory.

Origin Code

The supplier-provided code that is defined in **Serial Ranges** and that is uniquely related to the site, supplier, item, and pack code combination. External Serial and Origin Code serve as an extension for the serial master, which allows cross-linking to a single internal serial.

Printed

This field indicates whether the label of the scanned serial is printed. When the label scanned is printed correctly, the inventory data item, site, lot/serial, and reference are printed, and you cannot change this field. When you decommission a serial, the system clears this field.

Weight & Volume Data

The Weights & Volume panel allows users to update the Gross Weight and Volume for a serial in Active or Picked stage. This is useful because it allows users to upate these values according to actual measured logistics data. This panel also displays the Net Weight and Tare Weight for the associated serial. For information about how the weights are calculated, see (Weight Calculations—Serialized Shippers/Pre-Shippers on page 1399).

Note This panel is only displayed when a serial in Active or Picked stage is selected.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Build Pack

Loading Serialized or Non-Serialized Items into a Unit Pack

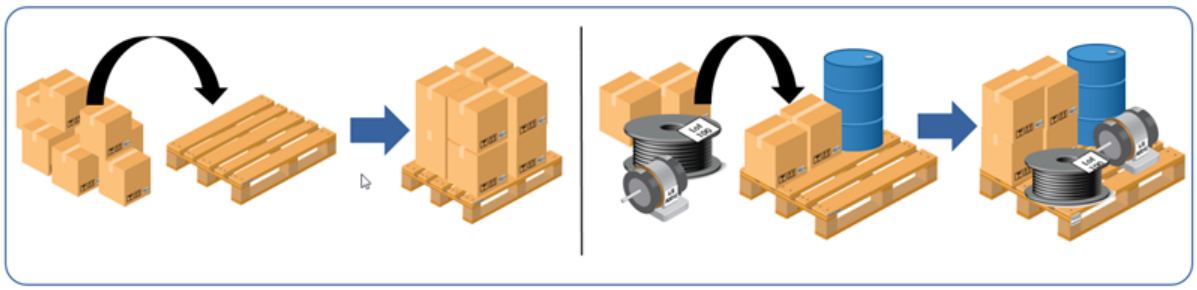
You can use this action to load serialized or non-serialized items into a unit pack. You can load the items into an existing unit pack in New, Active, or Decommissioned stage or into a pack that is newly created during the transaction. If necessary, you can build a mixed unit pack that contains

different items and/or lot numbers. For example, you can build a unit pack that contains different 500-ml and 750-ml olive oil bottles or the same 500-ml olive oil bottle from different inventory lots.



Loading Lower-Level Packs onto a Master Pack

You can use this action to load lower-level packs onto a master pack. You can load the packs onto an existing master pack in New, Active, or Decommissioned stage or onto a pack that is newly created during the transaction. If necessary, you can build a mixed assembly pack that contains a combination of unit packs and loose non-serialized items. For example, you can build a pallet with serialized unit packs and non-serialized wire spools and drums.



Using the Build Pack Action

When using Build Pack, the system only builds one level pack at a time.

When building unit or assembly packs, the inventory that is loaded into the master pack can be in different sites and locations. Upon clicking Submit, the inventory is transferred from those sites and locations to the same Site and Location values as the master pack.

When building a brand-new pack and the Pack Code specified is linked to an inventory item or BOM Code, the system tries to issue the item or components of the BOM Code from inventory if available. When using the Build Pack transaction, the system assumes that the inventory that is loaded into the pack is available and in stock. If necessary, you can load more inventory into a pack than the loose quantity on hand:

- If Overissue is set to Yes in **Inventory Detail** > Inventory Status field.
- If there is no inventory detail record in **Inventory Detail** but the default location status has Overissue set to Yes.

- If the existing assembly pack links to a specific sales order and booking serials exist for the sales order, the system verifies that all lower-level packs to be built on it are for the same sales order. All newly created serials for this master pack should be picked from the booked serials for that sales order.

For a procedure on using this action, see Using the Build Pack Action on page 3038.

After using this action, use the Drill Down Links to view detailed information about the serials that were created. that was created in **Serials** by selecting the **Serial History** or **Serialized Inventory** drill-down links.

Main

Master Serial

Enter the serial for the master pack or leave this field blank.

- **New packs.** If you are creating a brand-new master pack, leave this field blank. When blank, the system generates a new serial.
- **Existing packs.** If you are loading inventory onto an existing pack, enter the serial for the master pack. Only packs in New, Active, or Decommissioned stage are considered. When an existing serial is entered, the Pack Code, Site, Location, Item, and Address fields in the Main panel are defaulted in.

Pack Code

The pack code associated with the serial entered in the Master Serial field. It specifies the type of pack the items will be built into, such as a box or a pallet.

When the Pack Code is linked to an inventory item (or BOM Code), the BOM must be exploded to find all the items that are required to be issued from inventory. The system issues the items from the location where the serial is being received. If there is no inventory in that location, the system issues from the location in the Item definition. If it does not exist in that location, the issue transaction is not performed but the receipt is still processed successfully. This only applies when building a new master pack and does not apply when using an existing master pack.

If all the items on the BOM are not available and the Inventory Status does not allow for overissue, the user can still complete the Build Pack transaction. The items that are available are deducted from inventory and the items that are not available are not deducted from inventory.

When you build a brand-new pack (Master Serial = blank) and you enter the Site, Item, or Address, the Pack Code that defaults is based on the packaging structure defined in **Packaging Structures**. If a packaging structure does not exist for the Site, Item, Address

combination, the Pack Code is blank. This field is editable, allowing you to enter or modify the pack code.

When Serial Control for the unit pack is set to Never in **Pack Codes**, the system tries to find the higher packaging level where Serial Control is not set to Never. The system multiplies the Quantity in Pack of the parent level with the Quantity in Pack of the current level

Site

Enter the site where the item is stored. You cannot leave this field blank. The default is the global site.

This field is not editable when entering information in the Contents panel.

Location

Enter the location where the item is stored. If the Stage of the Master Serial = New, the location defaults from the primary location at the global site for the item to be loaded into the pack.

This field is not editable when entering information in the Contents panel.

Item

Enter the item to be loaded into the parent/master pack. You cannot leave this field blank.

This field is not editable when entering information in the Contents panel.

Address

Enter a valid address or site as the partner associated with the parent/master pack.

Contents

Number of Child Packs

Specifies the current number of child packs in the parent pack. The associated UM is displayed to the right of the field. This field is display-only. When a serial is entered in the Master Serial field, this value defaults into the field.

Inventory in Pack

Specifies the current number of inventory items in the parent pack. The associated UM is displayed to the right of the field. This field is display-only.

For example, if the parent/master pack is a pallet with 5 cases and each case contains 100 units, then this value is 500 units (5 cases * 100 units).

Standard Number of Child Packs

Specifies the standard number of child packs based on the packaging structure defined for the Item, Site, Address combination. The associated UM is displayed to the right of the field. This field can be modified.

This value defaults from the Quantity Per setting specified for the higher level of the child pack defined in the packaging structure. If a packaging structure is not defined, this value defaults to 0 with a blank UM.

Standard Pack Inventory

Specifies the standard inventory based on the packaging structure defined for the Item, Site, Address combination. The associated UM is displayed to the right of the field. This field can be modified.

This value defaults from the Quantity Per setting for the unit pack defined in the packaging structure. If a packaging structure is not defined, the value defaults to 0 with a blank UM.

Grid

In the Contents grid, specify the inventory to be loaded into the master pack. Select New to add a row to the Contents grid.

Type

Specify if the items or packs you are loading to the pack are serialized or non-serialized:

- **Item.** Select Item if you are loading loose non-serialized items into the pack. When set to Item, the Item, Lot/Serial, Reference, and Quantity in Pack fields are enabled.
- **Serial.** Select Serial if you are loading serialized items or packs. When set to Pack, only the Serial field is enabled. Only Active packs can be selected.

Serial

Enter the serial of the item unit or pack to be loaded into the master pack. This can be a unit pack or assembly pack. You cannot leave this field blank.

This field is only displayed when Type = Serial.

Pack Code

Displays the pack code associated with the serial.

Pack Code Description

Displays a short description of the pack code.

Item

The item to be loaded into the master pack.

Depending on the setting in the Type field, this field is editable or display only:

- When Type = Item, this field is editable. Enter the item to be loaded into the master pack. You cannot leave this field blank.
- When Type = Serial, this field is display-only.

Description

The description of the item in the pack.

Lot/Serial

The item lot/serial to be loaded into the master pack.

Depending on the setting in the Type field, this field is editable or display-only:

- When Type = Item, this field is editable. Enter the item lot/serial to be loaded into the master pack.
- When Type = Serial, this field is display-only.

Reference

The item reference number to be loaded into the master pack.

Depending on the setting in the Type field, this field is editable or display-only:

- When Type = Item, this field is editable. Enter the item reference number to be loaded into the master pack.
- When Type = Serial, this field is display-only.

Quantity in Pack

The item quantity in the pack.

Depending on the setting in the Type field, this field is editable or display only:

- When Type = Item, this field is editable. Enter the quantity of non-serialized items to be loaded into the master pack. You cannot enter a negative number.
- When Type = Serial, this field is display-only. When the serial is a serialized pack, this field displays the item quantity in the pack that is being loading into the master pack. If the serial is a serialized item unit, the Quantity in Pack is 1.

UM

Displays the UM of the content to be held in the pack. Defaults from the item UM. When Type = Serial, this field displays the pack UM.

Change Serial Stage

This action allows users to change a pack's serial stage from an inactive stage to another inactive stage. The Change Serial Stage action is only available when the pack stage is Booked, New, Pending, Consumed, Decommissioned, Unused, Inv Adjusted, or Aggregated.

For packs in Aggregated stage, you can change the stage only if the master pack serial stage is Pending or Inv Adjusted. When using this action for a pack in Aggregated stage, a Confirmation message prompts you to remove the unit pack from the master pack. When the unit pack is removed from the master pack, the unit pack stage changes to match the master pack stage, either Pending or Inv Adjusted.

This action is not available if the pack is in an active serial stage (Active, Consumed, or Picked).

After using this action, the system records the serial history and generates a PCK-CHS or SER-CHS serial transaction type. Select Serial History from the drill-down links menu to view the serial history records generated by this action.

For a procedure on using this action, see Using the Change Serial Stage Action on page 3039.

Changing the Stage of Mulitple Packs

If necessary, you can change the stage of mulitple packs at once. To do this, select the **Multiple Pack Stage Change** report from the **Serials** > Drill Down Links menu. For more information, see Serials on page 2968.

System Actions and Validations

The system can take several types of actions when you change stages. Validations can occur differently depending on the type of change. The following section lists all the system actions and system validations by number. It includes explanations of each stage change and which system action and validation number apply to the change.

Use the numbers associated with the system actions and validations described in this topic with information in the table below to determine valid changes and system responses.

The system can take any of the following actions:

1. Clear pack code.
2. Clear item number, lot/serial, and reference.
3. Clear site and location.
4. Change stage code.
5. Decommission a whole structure and:
    a. Make the same changes to all serials in the structure.
    b. Decommission a whole structure and make the same changes to all serials in the structure except for the item serials.

6. Clear order information except for the booked SO (or customer scheduled order).
7. Clear Qty in Pack.
8. Clear Standard Pack Quantity and Content UM.

The system can validate as follows:

- (V1) When not booked to an SO (or customer scheduled order), the system cannot change the stage to Booked.
- (V2) Item serials are not supported.
- (V3) When the serial is booked to an SO, the system cannot change the stage to New.
- (V4) When the serial is not linked with a shipper, the system cannot change the stage to Inv Adjusted.

Current Stage	To Booked	To New	To Pending	To Consumed	To Decommissioned	To Unused	To Inventory Adjusted
Booked	NA	No	No	No	No	4,6,7,8	No
New	1, 2, 3, 4, 7, 8, V1	NA	No	No	2, 3, 4, 6, 7, 8	1, 2, 3, 4, 6, 7, 8	No
Pending	1, 2, 3, 4, 5a, 7, 8, V1	4, 5a, 6, 7, V3	NA	No	2, 3, 4, 5a, 6, 7, 8	1, 2, 3, 4,5a, 6, 7, 8	4, 6
Consumed	1, 2, 3, 4, 5b, 7, 8, V1, V2	4, 5b, 6, 7, V2, V3	No	NA	2, 3, 4, 5b, 6, 7, 8, V2	1, 2, 3, 4, 5b, 6, 7, 8, v2	4, V2, 6, V4
Decommissioned	1, 4, 7, 8, V1	4, 6, 7, V3	No	No	NA	1, 4, 6, 7, 8	No
Unused	4, 7, 8, V1	No	No	No	No	NA	No
Inventory Adjusted	1, 2, 3, 4, 5a, 7, 8, V1	4, 5a, 6, 7, V3	No	No	2, 3, 4, 5a, 6, 7, 8	1, 2, 3, 4, 5a, 6, 7, 8	NA

Current Stage	To Booked	To New	To Pending	To Consumed	To Decommissioned	To Issued	To Inventory Adjusted
Aggregated (Master Pack = Pending)*	1, 2, 3, 4, 5a, 7, 8, V1	4, 5a, 6, 7, V3	NA	No	2, 3, 4, 5a, 6, 7, 8	1, 2, 3, 4,5a, 6, 7, 8	4, 6
Aggregated (Master Pack = Inv Adjusted)*	1, 2, 3, 4, 5a, 7, 8, V1	4, 5a, 6, 7, V3	No	No	2, 3, 4, 5a, 6, 7, 8	1, 2, 3, 4, 5a, 6, 7, 8	NA

* You can only change a pack in Aggregated stage if the master pack serial is in Pending or Inv Adjusted stage.

Main

Serial

The serial associated with the pack or item.

From Serial Stage

Displays the current stage of the serial.

To Serial Stage

Enter the stage that you want to change serial to. See the *System Actions and Validations* section for information on valid stages to which you can change from an existing stage. This section also describes system actions and validations that are stage-to-stage dependent.

Pack Code

The pack code associated with the serial.

Inventory

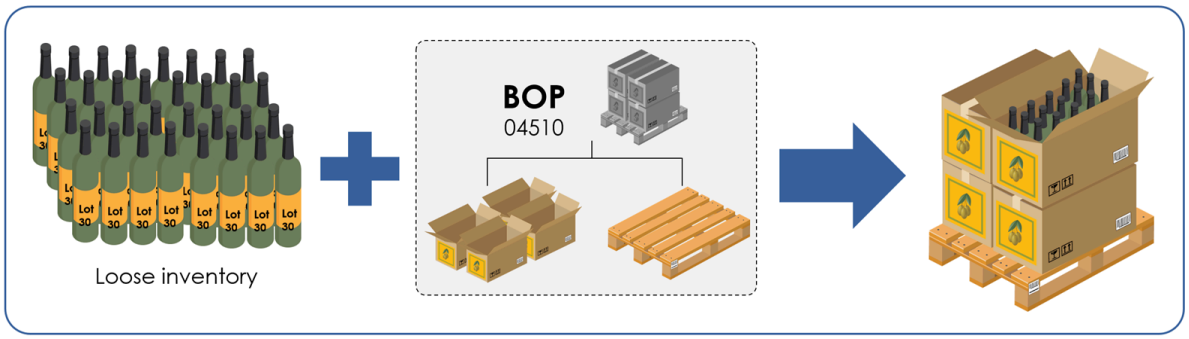
The Inventory panel displays information about serial, including Item, Site, Location, Lot/Serial, Reference, and Quantity In Pack. The fields in this panel are display only.

Order Information

The Order Information panel displays any order information that is linked to the serial. The fields in this panel are display only.

Commission Pack

Using the BOP structure to define how the items are to be packaged allows you to build multi-level assembly packs at once. For example, if the BOP structure is a multi-level assembly pack such as a pallet with four boxes of olive oil, then you can use the Commission Pack action to build the entire pallet of olive oil boxes.



The inventory that is selected must be available. You can build more inventory into a pack than the loose quantity on hand when:

- The inventory status code has Overissue set to Yes.
- No inventory detail record exists, but the default location status has Overissue set to Yes.

If necessary, you can adjust the BOP structure in the Pack Structure grid. The system automatically creates serials based on the specified BOP structure and any manual changes that might have been made.

Differences between Build Pack and Commission Pack

The Commission Pack action is similar to the Build Pack action except for some key differences.

Build Pack	Commission Pack
Builds packs one level at a time	Builds packs for all levels at once
Builds packs based on pack code	Builds packs based on BOP structure
Can load inventory into an existing unit pack or load lower-level packs onto an assembly pack	Cannot load inventory into existing packs

For a procedure on using this action, see Using the Commission Pack Action on page 3039.

After using the Commission Pack action, you can view detailed information about the serial that was created in **Serials** by selecting the **Serial History** or **Serialized Inventory** drill-down links.

Main

Site

Enter the site where the items are stored. You cannot leave this field blank.

Location

Enter the location where the items are stored.

Item

Enter the non-serialized item to be packaged. You cannot leave this field blank. Only non-serialized items (Items > Serial Control = Never) can be entered in this field.

The item that is selected must be available. You can build more inventory into a pack than the loose quantity on hand when:

- The inventory status code has Overissue set to Yes.
- No inventory detail record exists, but the default location status has Overissue set to Yes.

Lot/Serial

Enter the item lot/serial associated with the item.

Reference

Enter the reference information associated with the item.

Quantity

Enter the item quantity to be packaged. The value you enter determines the quantity of the generated serials. You cannot leave this field blank.

Origin/Destination

Address

Optionally, enter a valid address or site as the partner associated with the parent/master pack.

Pack Structure

BOP Code

Enter the BOP Code or accept the default based on the inventory information entered in the Main panel. This is a mandatory field.

The default is based on the item, site, and address combination set up in **Item Packaging Assignments**.

Full Master Pack

Displays the number of full master packs to be created. This value is automatically generated based on the Quantity and the BOP Code entered.

Incomplete Master Pack

Displays the number of incomplete master packs to be created. This value is automatically generated based on the Quantity and the BOP Code entered.

Full Pack Quantity

Displays the total quantity in all full packs to be created.

Incomplete Pack Quantity

Displays the total quantity in all incomplete packs to be created.

Pack Structure Grid

After entering the necessary information in the Main, Origin, and Pack Structure panels, click Apply to populate the pack structure grid with packs. The levels and the item quantities that are populated into the grid are based on the Quantity and BOP Code entered and the full and incomplete master pack and unit pack quantities.

All fields in the grid are read only except for the Quantity in Pack field. You can edit the Quantity in Pack but only for the lowest-level pack in the BOP structure. For any level higher than the lowest level in the BOP structure, the Quantity in Pack is read only.

Level

Displays the level in the BOP structure. The highest level in a BOP structure, which is the master pack, is Level 1.

Pack Code

Displays the pack code for this level in the BOP structure.

Pack Code Description

Displays the pack code description.

Content

Displays the item or pack contained for this level in the BOP structure.

Quantity In Pack

The Quantity in Pack defaults based on the Quantity and BOP Code. Only the Quantity in Pack for the lowest level packs/unit packs can be modified.

Standard Pack Quantity

Specifies the standard inventory based on the BOP structure entered.

This value defaults from the Quantity Per setting for the unit pack defined for the BOP structure in Packaging Structures.

UM

Displays the associated UM.

Decommission Pack

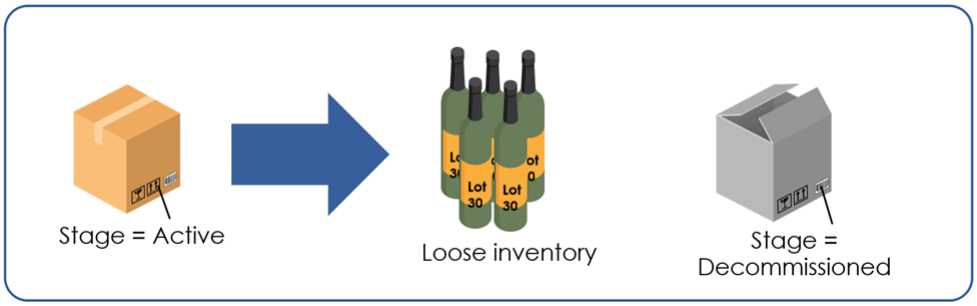
The Decommission Pack action supports the following use cases:

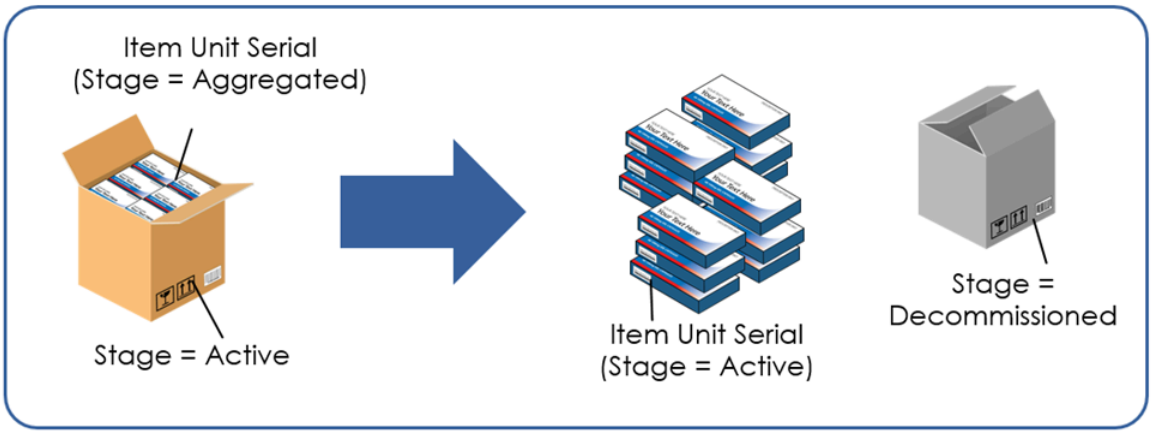
- Decommission a unit pack that contains serialized or non-serialized items. The unit pack can be Aggregated or Active and can be homogenous or contain mixed serialized or non-serialized items.
- Decommission only the master pack. When you only decommission the master pack, the master pack becomes Decommissioned and the lower-level packs become Active. The inventory is not removed from the lower-level packs.
- Decommission the whole pack structure. When you decommission the whole pack structure, the master pack and all lower-level packs become Decommissioned and the inventory is removed from the packs. If the lower level packs contain, non-serialized item, the items become loose inventory. If the lower level packs contain serialized items, the item unit serials become Active.

Remove Serialized or Unserialized Items from a Unit Pack

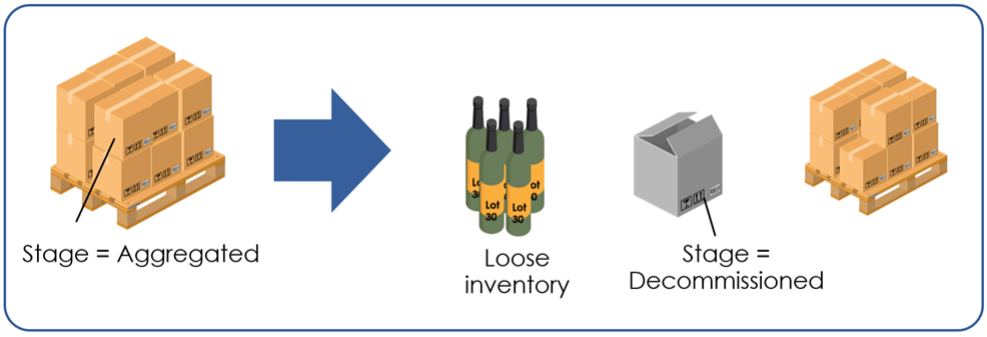
Use the Decommission Pack action to decommission a unit pack that is either in Active stage or Aggregated stage and remove all the inventory. The unit pack can contain serializalized or non-serialized items and can be a mixed pack or homogenous.

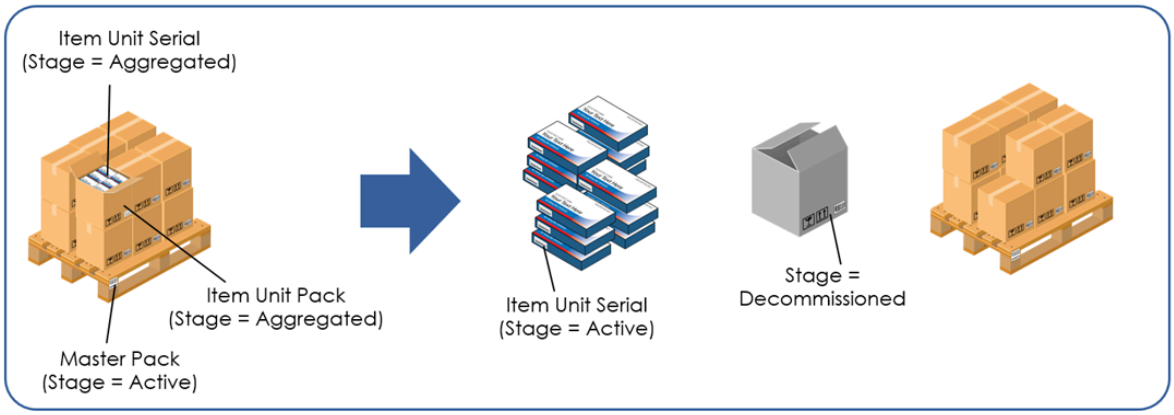
After using this action, the stage of the empty pack changes to Decommissioned.





If the pack is Aggregated, when you select the Decommission Pack action, a confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack. The system temporarily changes the stage to Active while you continue with the transaction. When the transaction is complete, the system decommissions the empty unit pack.

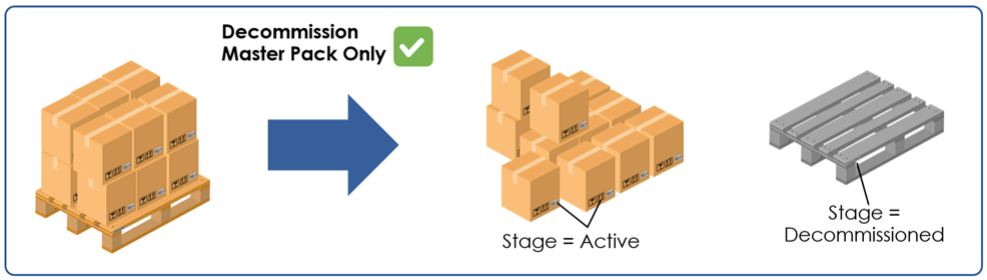




Remove Lower-Level Packs from Master Packs

Use the Decommission Pack action to decommission only the master pack. Make sure to select the Decommission Master Pack Only checkbox so that the system only decommissions the master pack. The stage of the lower-level packs changes to Active. The package structures of the lower-level packs remain the same.

The Decommission Master Pack Only checkbox is only available when a master pack is being decommissioned.

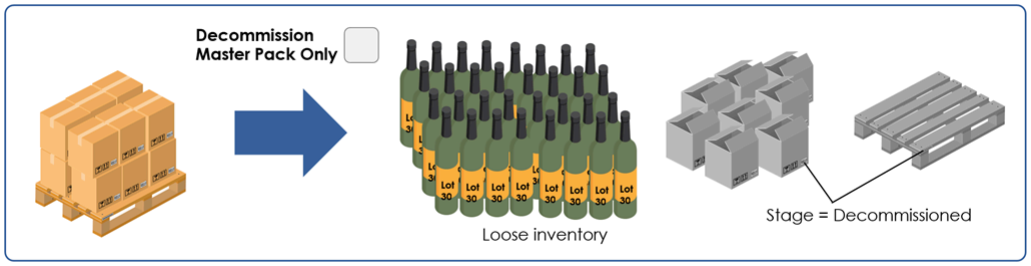


Decommission the Entire BOP Structure

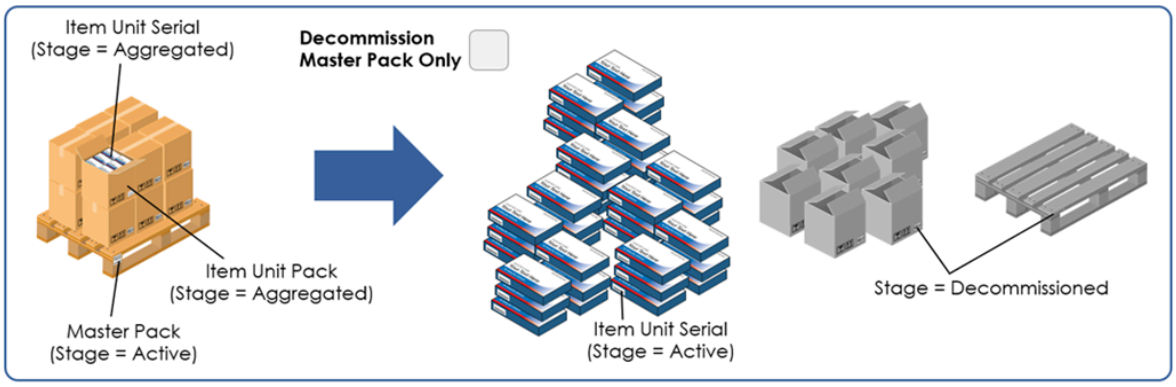
Use the Decommission Pack action to decommission the entire BOP structure. Make sure the Decommission Master Pack Only checkbox is NOT selected so that the system decommissions all levels of the BOP structure.

The Decommission Master Pack Only checkbox is only available when a master pack is being decommissioned.

If the lower level packs contain, non-serialized item, the items become loose inventory.



If the lower level packs contain serialized items, the item unit serials become Active.



For a procedure on using this action, see Using the Decommission Pack Action on page 3040.

After using the Decommission Pack action, you can view detailed information about the serial that was created in **Serials** by selecting the **Serial History** or **Serialized Inventory** drill-down links.

Main

Serial

Displays the serial of the pack to decommission.

Item

Displays the item contained in the pack. If this is a mixed pack with different items, this field is blank.

Site

Displays the site where the pack is stored.

Location

Displays the location where the pack is stored.

Stage

Displays the serial stage of the pack.

Serial stages are codes used to track the current situation of a serial before, during, and after inventory processing. These codes include system- and user-defined codes for active serials related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

Pack Code

Displays the pack code of the pack.

External Serial ID

Displays the external serial number provided by the supplier. External Serial and Origin Code serve as an extension for the serial master, which allows cross-linking to a single internal serial. You can retrieve the External Serial value from existing browses and reports so that you can efficiently track and trace packaged inventory.

Decommission Master Pack Only

This option determines whether you decommission only the master pack or all levels of a BOP structure. This option is only available when a master pack is decommissioned.

- **Selected**. Select this checkbox so that the system only decommissions the master pack. For example, if you are decommissioning a pallet with boxes of olive oil, and you select this option, the system only decommissions the pallet. The packs are removed from the pallet, their stage changes to Active, and the olive oil remains in the packs.

- **Not Selected**. Do not select this checkbox to decommission the entire BOP structure. Using the same example of a pallet of olive oil, if you decommission the full BOP structure, the system decommissions every pack in all the levels of the BOP structure. All the olive oil is removed from the BOP structure and it becomes loose inventory.

Contents

The fields in the Contents panel change depending on whether you select a unit pack with loose non-serialized items or a master pack.

Item

Displays the item in the pack.

Description

Displays a short description of the item.

Serial

Displays the serial associated with the master pack.

Pack Code

Displays the pack code of the serial.

This field is displayed when a serialized item or master pack is being decommissioned.

Pack Code Description

Displays the pack code description.

This field is displayed when a serialized item or master pack is being decommissioned.

Lot/Serial

Displays the item lot/serial in the pack.

Reference

Displays the item reference information.

Quantity Per Pack

Displays the item quantity in the pack.

UM

Displays the associated UM.

External Serial

Displays the external serial provided by the supplier.

This field is displayed when a serialized item or master pack is being decommissioned.

Create Pack

When using the Create Pack action to create packs or item unit serials, it is not required that inventory is in stock. This allows users to create packs and item unit serials before inventory is received (inbound or production order) or outbound during packaging.

The Create Pack action creates a PCK-COM serial history transaction for each pack that is created. Use **Serial History** to view the serial history transactions records. Each record references the Item, Site, Address, Lot/Serial, Reference, Pack Quantity, Pack Code, and Pack UM that were specified when the Create Pack action was performed. The serials that are created from the Create Pack action are Stage = New.

The Create Pack action supports the following use case scenarios:

- Create Brand New Unit Packs. See Using Create Pack to Create Brand New Packs on page 3040.
- Create Brand New Item Unit Serials. See Using Create Pack to Create Item Unit Serials on page 3041.

Main

Create By

Defaults to Pack Code, allowing users to create the serial label based on a pack code.

Origin/Destination

In the Origin/Destination panel, specify the origin of the pack by entering the site and address.

Site

The site associated with the origin or destination of the pack.

Address

The address associated with the origin or destination of the pack.

Inventory

Use the Inventory panel to specify the item, lot/serial, and reference for the pack to be created. The system generates serials based on the information you enter. Because you can use the Create Pack action to create serials before inventory is in stock, the item/lot/serial may not exist in stock.

Item

Enter the item to associate with the pack.

Lot/Serial

Enter the lot/serial to associate with the pack.

If you are creating item unit serials, leave this field blank.

Reference

Enter the reference number to associate with the pack.

Pack

The fields in the Pack panel are enabled when the user enters the site, address, and/or item.

Pack Code

Enter a valid pack code for which the system creates serials. The default is from the unit pack of the BOP structure, which the system determines based on the item, site, and address that are entered.

If you are creating item unit serials, leave this field blank.

Number of Packs

Specify the number of packs or item unit serials to be created. This value must be greater than zero.

Pack Quantity

Enter the expected quantity to be held in the pack. This value cannot be a negative value. The default is from the quantity per of the unit pack/inventory item level of the BOP structure that the system determines by item, site, and address.

If you are creating item unit serials (Pack Code = blank), Pack Quantity defaults to 1.

When Serial Control for the unit pack is set to Never in Pack Codes, the system tries to find the higher packaging level where Serial Control is *not* set to Never. The system multiplies the Quantity in Pack of the parent level with the Quantity in Pack of the current level.

Pack UM

Enter the UM of the content of the pack. The default is from the item UM. If an assembly pack code is entered, the value entered must be a pack UM.

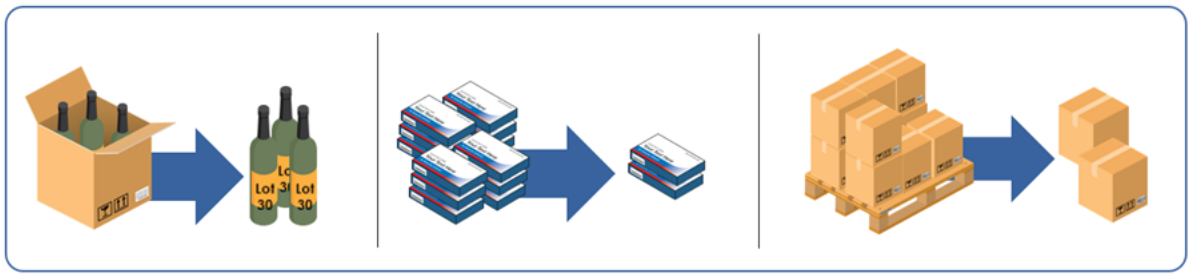
Issue Unplanned Pack

This action supports the following use case scenarios:

- Issue serialized or non-serialized items from a unit pack in Active stage.
- Issue serialized or non-serialized items from an assembly pack, where the unit pack that contains the items is in Aggregated stage.
- Issue loose serialized item units.
- Issue lower-level packs from a master pack.

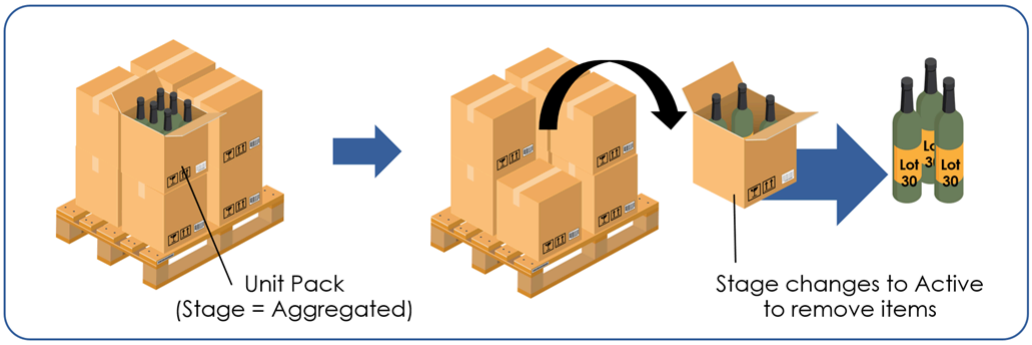
Note To perform unplanned issues for non-serialized inventory, use the **Inventory Detail** > Issue Unplanned action.

For instructions on using the Issue Unplanned Pack action, see Using the Issue Unplanned Pack Action on page 3042.



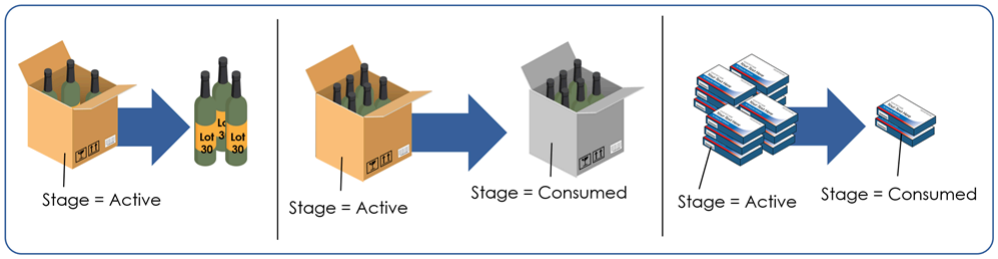
Issuing Items from an Assembly Pack

To issue inventory from an assembly pack, the pack containing the items must be in Active stage. When removing inventory from an Aggregated pack, the system prompts you to remove the pack from the master pack and changes the stage to Active before issuing the items from the pack.

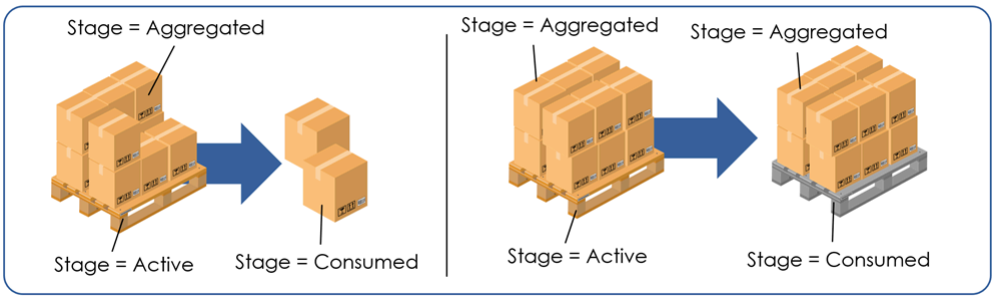


Issue Unplanned Pack and Serial Stages

If you issue some of the items from a unit pack, the stage of the unit pack remains Active. If you issue all the items from a unit pack, the stage of the pack becomes Consumed. If you issue a loose serialized item unit, the stage changes to Consumed.



If you issue a unit pack from a master pack, the stage of the unit pack that is issued changes to Consumed while the master pack stage remains Active and the unissued unit packs remain Aggregated. If you issue all of the unit packs from a master pack, the stage of the unit packs remains Aggregated and the stage of the master pack changes to Consumed.



Issue Unplanned Pack vs Pack Remove

The following table shows the differences between the Issue Unplanned Pack and Pack Remove transactions.

Issue Unplanned Pack	Pack Remove
Decreases Quantity on Hand	No impact on Quantity on Hand
Generates inventory and serial transactions	Generates serial transactions
Stage becomes “Consumed” when pack is empty	Stage becomes “Decommissioned” when pack is empty

Main

In the Main Panel, the Serial, Master Serial, Item, Site, Location, External Serial, Stage, Pack Code default from the Serial selected in **Serials** and are read only.

Serial

Displays the serial of the pack or serialized item unit that was selected.

Master Serial

For the serial that was selected, displays the associated master pack serial.

Item

Displays the item in the pack that is being issued. If there are different items in the pack, this field is blank.

Site

Displays the site where the pack is stored.

Location

Displays the location where the pack is stored.

External Serial

Displays the external serial provided by the supplier for the serial selected.

External Serial and Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

Effective Date

Optionally, enter the general ledger (GL) effective date for this transaction. The default is the system date.

Inventory Movement Code

Optionally, enter an inventory movement code for this transaction.

You are required to have access to this inventory movement code, defined in **Inventory Movements** > Site Security panel.

Stage

Displays the serial stage for the selected serial.

Serial stages are codes used to track the current situation of a serial number before, during, and after inventory processing. These codes include system- and user-defined codes for active serial numbers related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

Pack Code

Displays the pack code for the selected serial.

Order

Optionally, enter the order number associated with this inventory transaction. If Order is populated in the Main panel, it defaults into each row of the Contents grid.

Line

Optionally, enter the line item number associated with this inventory transaction. If Line is populated in the Main panel, it defaults into each row of the Contents grid.

Sales/Job

Optionally, enter a code associating this inventory transaction with a particular unit of work. If Sales/Job is populated in the Main panel, it defaults into each row of the Contents grid.

Address

Optionally, enter an address code associated with this transaction. The address code uniquely identifies a name and address record, usually

of a customer or supplier. If Address is populated in the Main panel, it defaults into each row of the Contents grid.

Remarks

Optionally, enter brief remarks (up to 10 characters) associated with this transaction. If Remarks is populated in the Main panel, it defaults into each row of the Contents grid.

Debit Project

Optionally, enter a code identifying the default general ledger (GL) project to be debited by this inventory transaction. If Default Project is populated in the Main panel, it defaults into each row of the Contents grid.

Contents (Unit Pack)

The fields in the Contents grid change depending on the serial selected and whether it is a unit pack or a master pack. The following fields are displayed when a unit pack serial is selected.

When you select a pack that contains serialized items, the pack information is displayed in the parent row and the serialized item information is displayed in child rows.

Issue

Select the checkboxes of the items being issued.

When you select a pack that contains serialized items, the pack information is displayed in the parent row and the serialized item information is displayed in the child row. When the Issue checkbox in the parent row is selected, the Issue checkboxes in the child grid are checked automatically, based on the Issue Quantity field. If you are issuing a partial quantity of the pack, the serialized items in the child grid to be issued can be manually selected or cleared.

Serial

Displays the Serial of the pack contained in the pack.

When you select a pack that contains serialized items, the pack information is displayed in the parent row and the serialized item information is displayed in the child row.

Item

Displays the items in the pack. If there are different items in the pack, this field is blank.

Description

Displays the description of the item. If there are different items in the pack, this field is blank.

Quantity In Pack

Displays the quantity that is currently in the pack.

Issue Quantity

Enter the quantity being issued. This field defaults to the Quantity in Pack.

When issuing inventory from a unit pack, this field is editable.

Lot/Serial

Displays the lot/serial number of the items. If there are different lot/serials in the pack, this field is blank.

Reference

Displays the item reference. If there are different item references in the pack, this field is blank.

Order

Optionally, enter the order number associated with this inventory transaction.

Line

Optionally, enter the line item number associated with this inventory transaction.

Sales/Job

Optionally, enter a code associating this inventory transaction with a particular unit of work.

Address

Optionally, enter a code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier.

Remarks

Optionally, enter brief remarks associated with this transaction.

Debit Account

Optionally, enter the general ledger (GL) account code used to track debit amounts for this inventory transaction.

Dr Sub-Acct

Optionally, enter the GL sub-account to be debited for this inventory transaction.

Dr Cost Ctr

Optionally, enter the GL cost center code to be debited for this inventory transaction.

Debit Project

Optionally, enter a code identifying the default GL project to be debited by this inventory transaction.

Printed

Indicates whether the serial is printed or not.

External Serial

Displays the external serial provided by the supplier for the serial in the pack.

Contents (Master Pack)

The fields in the Contents grid change depending on the serial selected and whether it is a unit pack or a master pack. The following fields are displayed when a master pack serial is selected.

Issue

Select the checkbox of the pack being issued.

Serial

Displays the serial of the pack contained in the master pack.

Pack Code

Displays the pack code of the pack contained in the master pack.

Pack Code Description

Displays the description of the pack code.

Item

Displays the item contained in the pack. If there are different items in the pack, this field is blank.

Description

Displays the description of the item contained in the pack. If there are different items in the pack, this field is blank.

Lot/Serial

Displays the lot/serial of the item contained in the pack. If there are different lot/serials in the pack, this field is blank.

Reference

Displays the item reference. If there are different item references in the pack, this field is blank.

Quantity In Pack

Displays the quantity in the pack. The quantity removed is always the full pack quantity.

Issue Quantity

When issuing packs, this field is read only. If there are multiple items in a pack, this field is blank.

Order

Optionally, enter the order number associated with this inventory transaction.

Line

Optionally, enter the line item number associated with this inventory transaction.

Sales/Job

Optionally, enter a code associating this inventory transaction with a particular unit of work.

Address

Optionally, enter a code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier.

Remarks

Optionally, enter brief remarks associated with this transaction.

Debit Account

Optionally, enter the general ledger (GL) account code used to track debit amounts for this inventory transaction.

Dr Sub-Acct

Optionally, enter the GL sub-account to be debited for this inventory transaction.

Dr Cost Ctr

Optionally, enter the GL cost center code to be debited for this inventory transaction.

Debit Project

Optionally, enter a code identifying the default GL project to be debited by this inventory transaction.

Printed

Indicates whether the serial is printed or not.

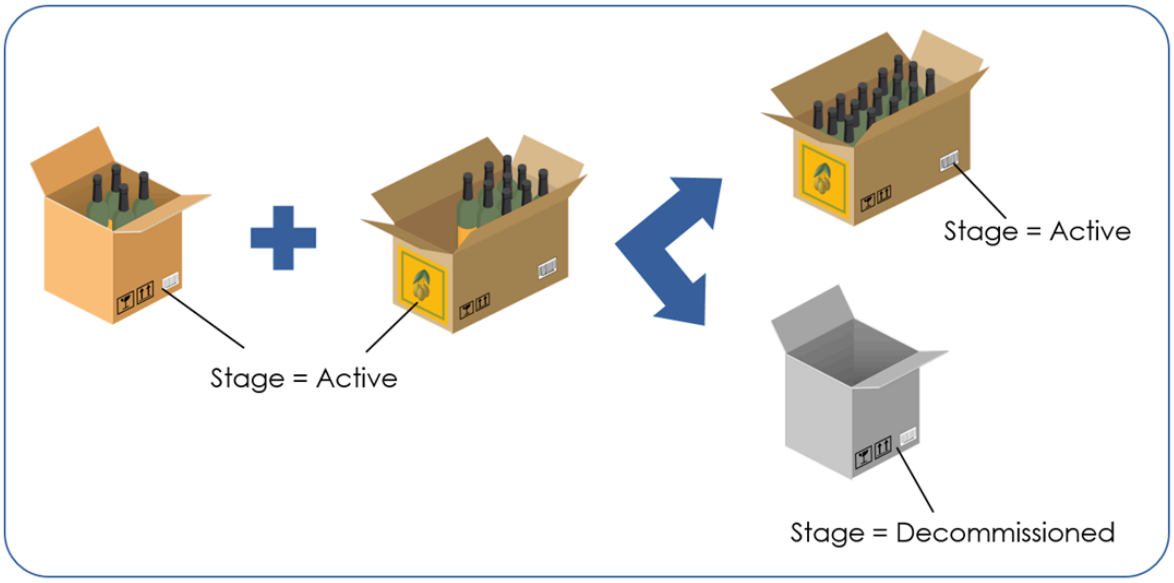
External Serial

Displays the external serial provided by the supplier for the serial in the pack.

Merge Pack

After merging the packs, the stage of the From Pack becomes Decommissioned because all its contents have been transferred and merged into the To Pack. If the From Pack is an item unit serial, it becomes Aggregated on the To Pack.

To use the Merge Pack action, the From and To Packs must be in Active stage.



The Merge Pack action can be used to merge the following:

- Merge the contents from an Active homogenous or mixed unit pack to another Active homogenous or mixed pack.
- Merge the contents from an Active homogenous or mixed assembly to another Active homogenous or mixed pack.
- Merge an item unit serial to a unit pack or assembly pack.

Note

Use Case	Merge Pack action
The packs can be in different Sites and Locations.	**No**. The packs must be in the same Site and Location.
The packs can be in the Picked or Active stage.	**No**. The packs must be in the Active stage.
You can merge mixed packs.	**Yes**. This use case is supported.

From Pack

The From Pack panel displays inventory information for the unit pack or assembly pack from which the inventory is being sourced. All fields in this panel are read only.

Serial

Displays the serial of the From Pack.

Stage

Displays the serial stage associated with the From Pack, which must be in Active stage.

Pack Code

Displays the pack code associated with the From Pack.

Site

Displays the site where the From Pack is located.

Location

Displays the location where the From Pack is located.

To Pack

The To Pack panel displays inventory information for the unit pack or assembly pack to which the inventory is being merged.

To Serial

Enter the serial of the pack to which the inventory is being merged. Only packs in Active stage can be selected.

To Stage

Displays the stage associated with the To Pack, which must be in Active stage.

To Pack Code

Displays the pack code associated with the To Pack.

Site

Displays the site where the To Pack is located. This pack must be in the same site as the From Pack.

Location

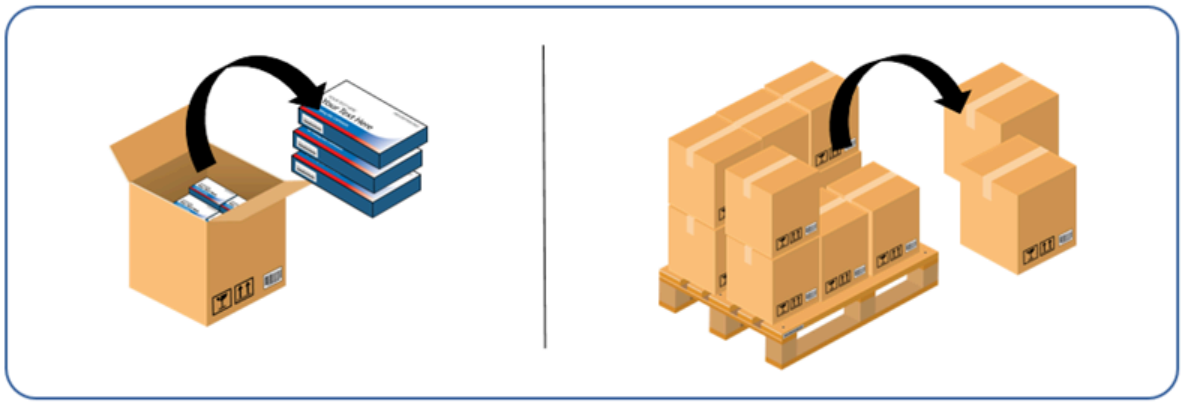
Displays the location where the To Pack is located. This pack must be in the same location as the From Pack.

Remove Pack

This action supports the following use cases:

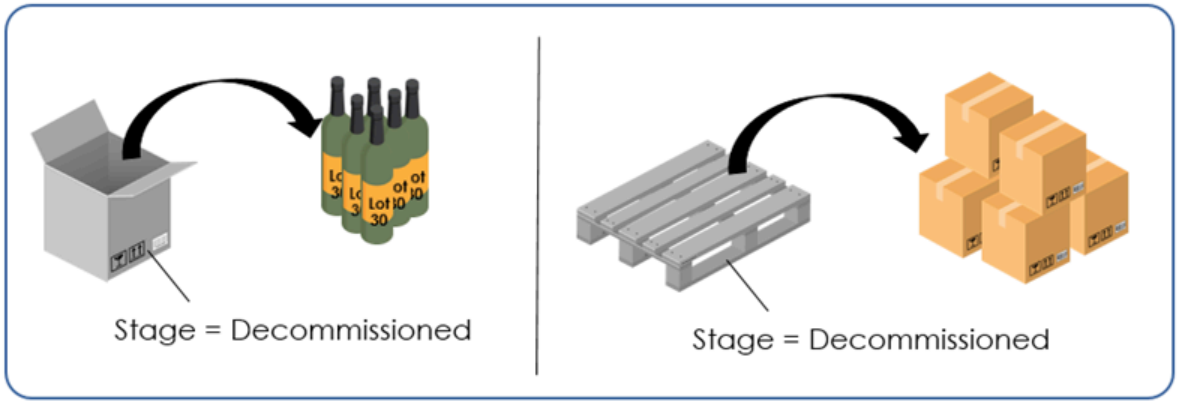
- Remove serialized or non-serialized items from a unit pack or assembly pack.
- Remove lower-level unit packs from a master pack.

For a procedure on using this action, see Using the Remove Pack Action on page 3044.

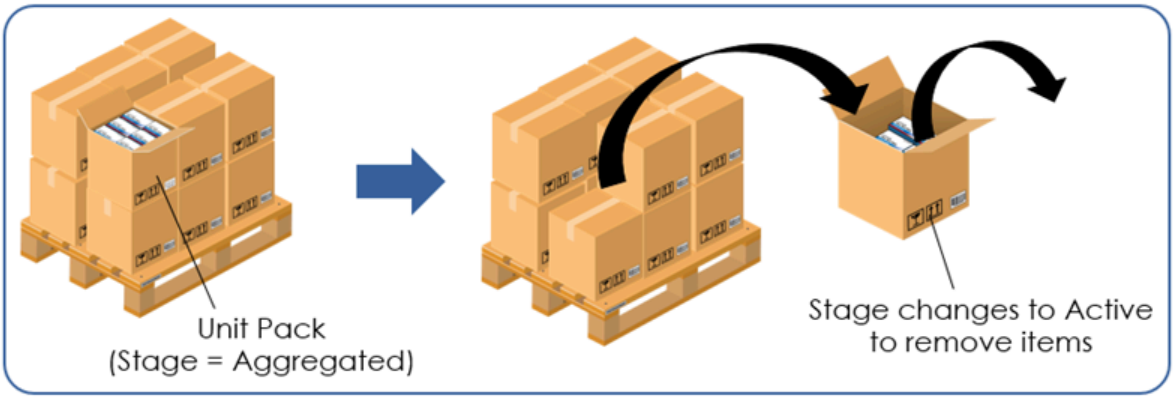


When using this action, you can only remove one level at a time.

When you remove all the items from a pack or remove all the unit packs from a master pack, the system decommissions the master pack.



To remove inventory from a pack, the pack must be in Active stage. When removing inventory from an Aggregated pack, the system prompts you to remove the pack from the master pack and changes the stage to Active before removing the items from the pack.



When using the Remove Pack action, the system creates serial history records, which can be viewed in **Serial History**. For more information about the serial transaction types, see .

Main

Serial

Displays the serial of the pack that you removing items or lower-level packs from.

Item

Displays the item in the pack that is being removed. If there are multiple items in the pack, this field is blank.

Site

Displays the site where the pack is stored.

Location

Displays the location where the pack is stored.

External Serial

Displays the external serial provided by the supplier for the serial selected.

External Serial and the Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

Stage

Displays the serial stage.

Serial stages are codes used to track the current situation of a serial before, during, and after inventory processing. These codes include system- and user-defined codes for active serials related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

Pack Code

Displays the pack code of the serial.

Contents

The fields in the Contents grid change depending on the serial selected and whether it is a unit pack or a master pack.

Contents Grid (Unit Pack)

The following fields are displayed in the Contents grid when a unit pack serial is selected.

Item

Displays the items in the pack. If there are different items in the pack, this field is blank.

Description

Displays the description of the item being removed. If there are different items in the pack, this field is blank.

Lot/Serial

Displays the lot/serial for the item that is being removed. If there are different lot/serials in the pack, this field is blank.

Reference

Displays the reference information for the item that is being removed. If there are different item references in the pack, this field is blank.

Quantity to Remove

Enter the quantity of the items to remove from its parent. You cannot enter a negative number and the value cannot exceed the quantity currently in the pack.

Quantity In Pack

Displays the quantity that is currently in the pack.

UM

Displays the UM of the item being removed. If there are different items in the pack, this field is blank.

Printed

Indicates whether the serial label is printed.

Contents Grid (Master Pack)

The fields in the Contents grid change depending on the serial selected and whether it is a unit pack or a master pack. The following fields are displayed when a master pack serial is selected.

Remove

Select the checkbox of the pack to be removed.

Serial

Displays the serial of the pack contained in the master pack.

Pack Code

Displays the pack code of the pack contained in the master pack.

Pack Code Description

Displays the description of the pack contained in the master pack.

Item

Displays the item contained in the pack. If there are different items in the pack, this field is blank.

Description

Displays the description of the item contained in the pack. If there are different items in the pack, this field is blank.

Lot/Serial

Displays the lot/serial of the item contained in the pack. If there are different lot/serials in the pack, this field is blank.

Reference

Displays the reference of the item contained in the pack. If there are different item references in the pack, this field is blank.

Quantity to Remove

For master packs, this field is blank. The quantity to remove is always the full pack quantity (Quantity in Pack).

Quantity In Pack

Displays the quantity in the pack. The quantity in pack is always the full pack quantity.

UM

Displays the UM of the item in the pack. If there are different items in the pack, this field is blank.

Printed

Indicates whether the serial label is printed.

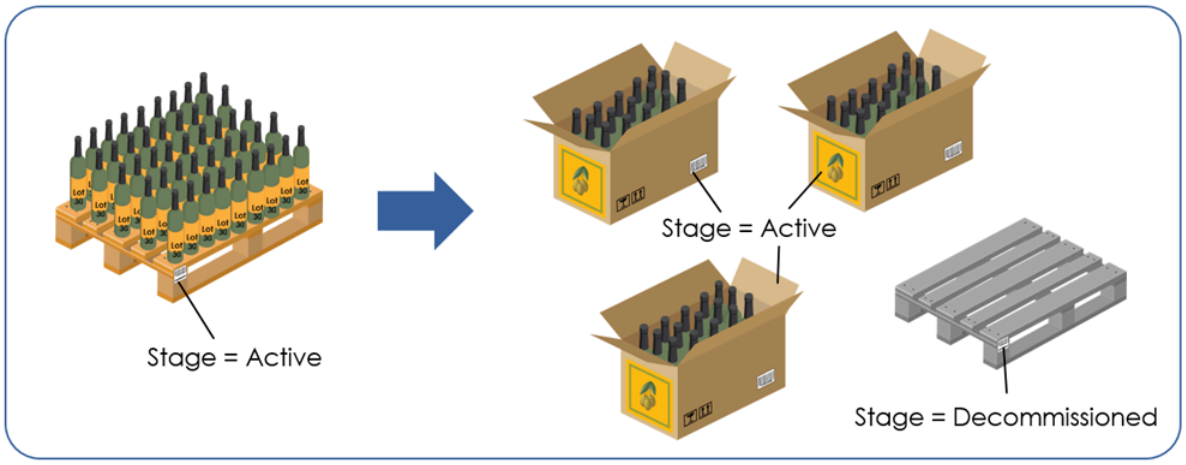
External Serial

Displays the external serial provided by the supplier for the serial in the pack.

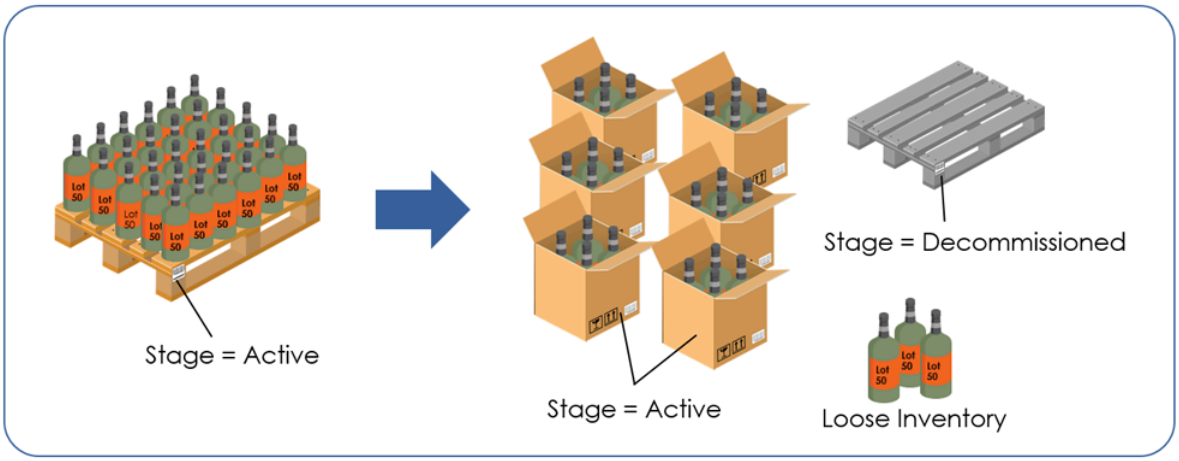
Repackage Pack

The Repackage Pack action allows you to repackage Active homogeneous unit packs. Only Active homogeneous unit packs containing non-serialized items can be repackaged. This action does not support repackaging mixed packs.

You can repackage all the inventory out of the From Pack or a partial quantity. If you repackage all the contents out of the From Pack, then the From pack becomes Decommissioned. The system generates new packs based on the Pack Code, Standard Pack Quantity, Number of Full Packs, and Quantity in Partial Pack specified.



If you repackage all the contents out of the From Pack but only specify that a partial quantity is packaged into the To Packs, then the remaining contents become loose inventory. The Loose Quantity is calculated based on the Repackage Quantity and the Standard Pack Quantity, Number of Full Packs, and Quantity in Partial Pack.



Note If the unit pack is booked for an SO line, the system assigns new serials from the pool of Booked serials. If there are no available Booked serials, an error is shown.

From Pack

The From Pack panel displays inventory information for the unit pack or assembly pack from which the inventory is being repackaged. All fields in this panel are read only except the Repackage Quantity field, which you use to enter the quantity of items to be repackaged.

Serial

Displays the serial of the From Pack.

Stage

Displays the serial stage associated with the From Pack, which must be in Active stage.

Pack Code

Displays the pack code associated with the From Pack.

Quantity in Pack

Displays the quantity of items in the From Pack.

Repackage Quantity

Enter the quantity of items to be repackaged into the To pack.

Printed

This checkbox indicates whether the label of the scanned serial is printed. When the label scanned is printed correctly, the inventory data item, site, lot/serial, and reference are printed. This checkbox is read only.

Site

Displays the site where the From Pack is located.

Location

Displays the location where the From Pack is located.

Item

Displays the item number contained in the pack.

Lot/Serial

Displays the lot/serial associated with the pack.

Reference

Displays any reference information related to the serial.

To Pack

To Pack Code

Enter a pack code for the system to generate new packages for the repackaged quantity of inventory.

Address

Optionally, enter the partner/address associated with the repackage transaction. Blank is allowed.

Standard Pack Quantity

Specify the number of items in a standard pack.

Number of Full Packs

Enter the number of full packs to be generated by the repackage transaction. The Number of Full Packs and the Quantity in Partial Pack cannot both be zero. Otherwise, an error is displayed when you select Submit.

Quantity in Partial Pack

If one of the To Packs is partially filled, enter the number of items in that pack. The Number of Full Packs and the Quantity in Partial Pack cannot both be zero. Otherwise, an error is displayed when you select Submit.

Loose Quantity

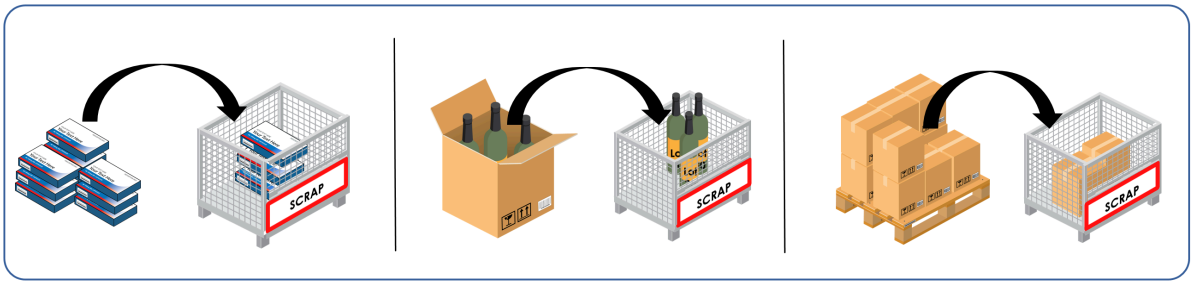
Displays the loose quantity to be generated by the repackage transaction. If all items are repackaged into the To Packs, the Loose Quantity is zero (0). The system calculates its value based on the following:

Loose inventory = Repackaged quantity – (Standard pack quantity * Number of full packs + Quantity in partial pack)

Scrap Pack

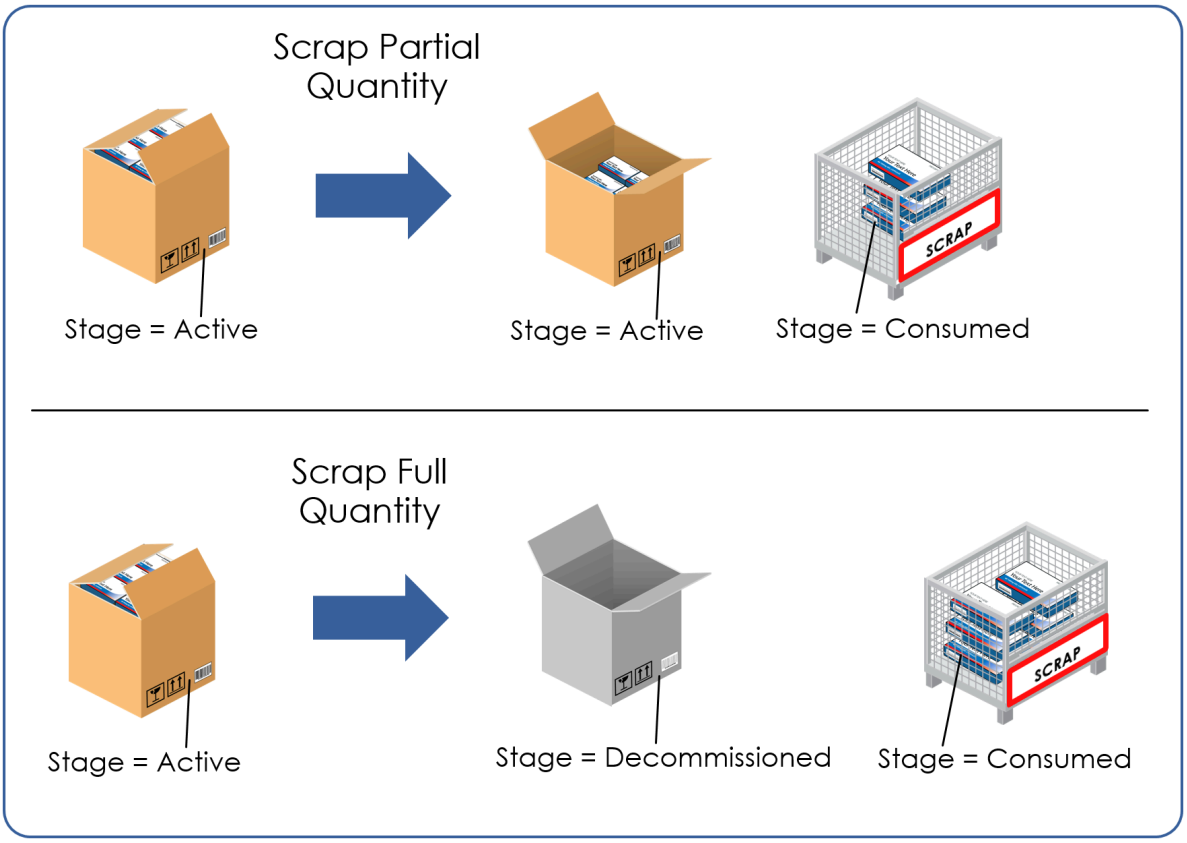
This action supports the following use cases:

- Scrap loose serialized items.
- Scrap serialized or non-serialized items from a unit pack or master/ assembly pack.
- Scrap lower-level unit packs from a master pack.

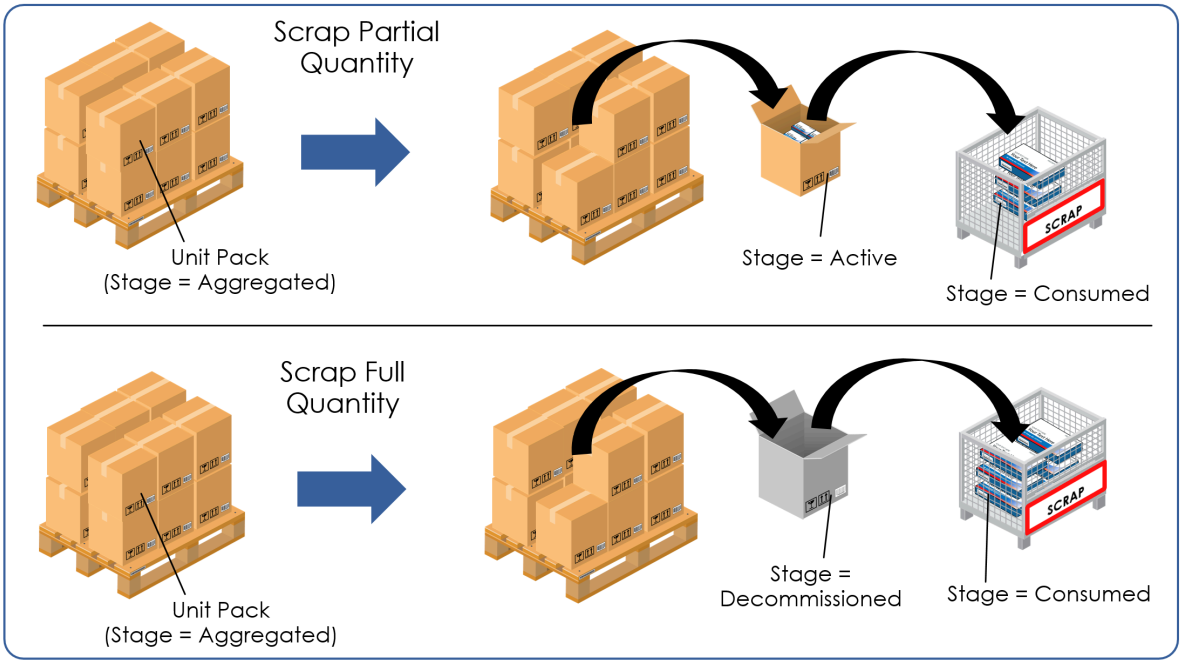


When using this action, you can scrap the full quantity or a partial quantity in a pack:

- When scrapping a partial quantity from a pack in Active stage, the Stage of the pack remains Active and does not change.
- When scrapping a serialized item, the Stage changes to Consumed, whether it was a loose item or was in a pack.
- When scrapping the full quantity of items from a pack, the Stage of the pack changes to Decommissioned. If the pack contained serialized items, the Stage of the items changes to Consumed.



When scrapping items from an Aggregated pack, the system prompts you to remove the pack from the master pack and changes the stage to Active before scrapping the items from the pack. If you scrap the full quantity of items from the pack, the system decommissions the pack.



For instructions on using the Scrap Pack action, see Using the Scrap Pack Action on page 3045.

Main

Serial

Displays the serial of the item or pack that you want to scrap.

Master Serial

Displays the associated master pack serial.

Item

Displays the item in the pack that is being scrapped. If there are multiple items in the pack, this field is blank.

Site

Displays the site where the pack is stored.

Location

Displays the location where the pack is stored.

External Serial

Displays the external serial provided by the supplier for the serial selected.

External Serial and Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

Employee

Enter the employee code of the person creating this inventory transaction.

Reason Code

Optionally, enter the reason code used for the scrap transaction.

If a value for this field is entered in the Main panel, it defaults to all rows in the Contents grid. If necessary, you can update this field in the grid for any selected rows.

Stage

Displays the serial stage.

Serial stages are codes used to track the current situation of a serial before, during, and after inventory processing. These codes include system- and user-defined codes for active serials related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

Pack Code

Displays the pack code of the serial.

Order

Optionally, enter the order number associated with this inventory transaction.

If a value for this field is entered in the Main panel, it defaults to all rows in the Contents grid. If necessary, you can update this field in the grid for any selected rows.

Line

Optionally, enter the line item number associated with this inventory transaction.

If a value for this field is entered in the Main panel, it defaults to all rows in the Contents grid. If necessary, you can update this field in the grid for any selected rows.

Authorization Document

Optionally, enter the ID number for the document that authorizes the transaction. Some reports and inquiries can be selected by document ID number.

If a value for this field is entered in the Main panel, it defaults to all rows in the Contents grid. If necessary, you can update this field in the grid for any selected rows.

Remarks

Optionally, enter brief remarks associated with this transaction.

If a value for this field is entered in the Main panel, it defaults to all rows in the Contents grid. If necessary, you can update this field in the grid for any selected rows.

Debit Project

Optionally, enter a code identifying the default GL project to be debited by this inventory transaction.

If a value for this field is entered in the Main panel, it defaults to all rows in the Contents grid. If necessary, you can update this field in the grid for any selected rows.

Contents

The Contents grid displays the items or packs to be scrapped. If you are scrapping a pack that contains serialized items, the pack information is displayed in a parent row and the serialized items are displayed in child rows.

Scrap

Select the checkbox to specify which items or packs are to be scrapped.

Serial

Displays the serial of the serialized item or pack being scrapped.

This field is only displayed when a master pack is being scrapped.

Pack Code

Displays the pack code of the serialized item or pack being scrapped.

This field is only displayed when a master pack is being scrapped.

Pack Code Description

Displays the pack code description.

This field is only displayed when a master pack is being scrapped.

Item

Displays the items in the pack. If there are different items in the pack, this field is blank.

Description

Displays the description of the item being scrapped. If there are different items in the pack, this field is blank.

Quantity In Pack

Displays the quantity that is currently in the pack.

Scrap Quantity

The quantity to be scrapped. This field is only editable if you are scrapping non-serialized items from a pack.

- **Packs and/or Serialized Items**. If you are scrapping serialized items or packs, this field is read only and it defaults to the Quantity in Pack. If there are multiple items in a pack, this field is blank.
- **Items**. If you are scrapping non-serialized items from a pack, this field is editable. The Scrap Quantity defaults from the Quantity in Pack, and can be modified if necessary. You cannot enter zero, a negative number, or a value that exceeds the quantity currently in the pack.

Reason Code

Enter the reason code used for the scrap transaction.

If the user entered data in the Main Panel, that data defaults in the field.

Lot/Serial

Displays the lot/serial for the item that is being scrapped. If there are different lot/serials in the pack, this field is blank.

Reference

Displays the reference information for the item that is being scrapped. If there are different item references in the pack, this field is blank.

Order

Optionally, enter the order number associated with this inventory transaction. If the user entered data in the Main Panel, that data defaults in the field.

Line

Optionally, enter the line item number associated with this inventory transaction. If the user entered data in the Main Panel, that data defaults in the field.

Authorization Document

Optionally, enter the ID number for the document that authorizes the transaction. Some reports and inquiries can be selected by document ID number. If the user entered data in the Main Panel, that data defaults in the field.

Remarks

Optionally, enter brief remarks associated with this transaction. If the user entered data in the Main Panel, that data defaults in the field.

Debit Project

Optionally, enter a code identifying the default GL project to be debited by this inventory transaction. If the user entered data in the Main Panel, that data defaults in the field.

Debit Account

Displays the general ledger (GL) account code used to track debit amounts for this inventory transaction.

Dr Sub-Acct

Displays the GL sub-account to be debited for this inventory transaction.

Dr Cost Ctr

Displays the GL cost center code to be debited for this inventory transaction.

Cr Account

Displays the GL account code used to track credit amounts for this inventory transaction. It is a valid, active account of type Standard.

Cr Sub-Acct

Displays the GL sub-account code used to track credit amounts for this inventory transaction.

Cr Cost Ctr

Displays the GL cost center code used to track credit amounts for this inventory transaction.

Printed

Indicates whether the serial is printed.

External Serial

Displays the external serial provided by the supplier for the serial selected.

External Serial and Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

This field is only displayed when a master pack is being scrapped.

Split Pack

This action supports the following use cases:

- **Splitting a Unit Pack**. Remove items from a unit pack and build them into another unit pack.

- **Splitting an Assembly/Master Pack**. Remove items or packs from a master pack and building them into another master pack.

The Split Pack action is similar to the Remove Pack action but with the added ability to build the removed inventory into a different pack.

For instructions on using this action, see Using the Split Pack Action on page 3045.

Splitting a Unit Pack

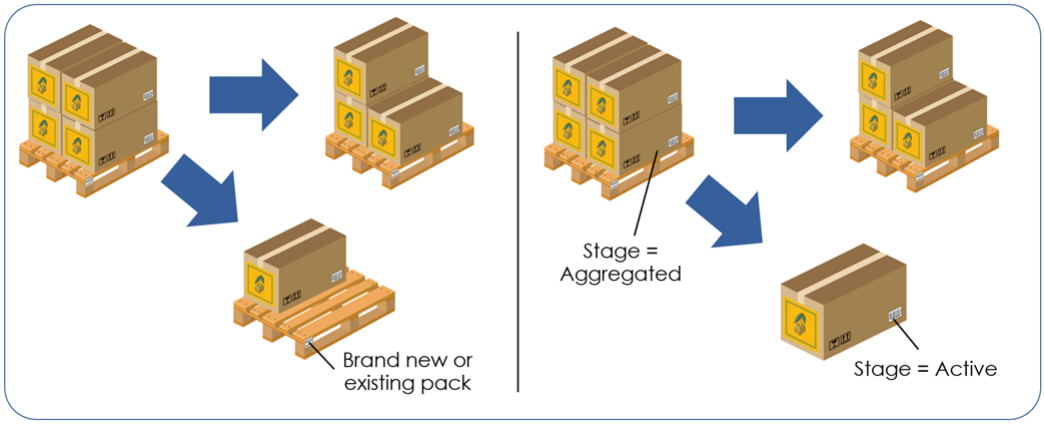
The Split Pack action allows you to remove items from a unit pack (in Active stage) and build those items into another unit pack. You can remove all or some items by specifying the Quantity to Remove. The item quantity that is removed can be built into a brand new or existing unit pack or they can become loose inventory.



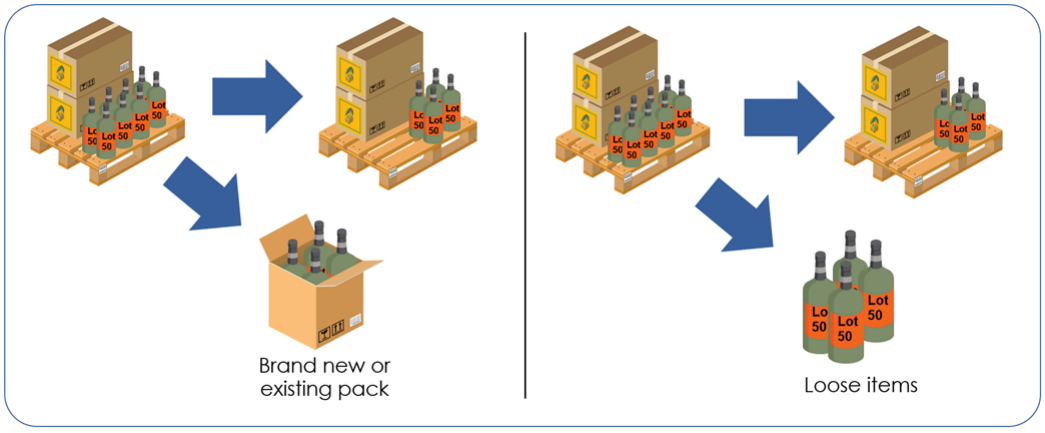
Splitting an Assembly Pack

The Split Pack action allows you to remove lower-level packs from a master pack (in Active stage) and build those items into another master pack.

When splitting an assembly pack, you can select which lower level packs to remove. The packs that are removed can be built onto a brand new or existing master pack. You can also choose to remove the lower-level packs without rebuilding them on a different pack. In this instance, the packs that are removed become Active.



If the assembly pack contains loose items directly on the assembly pack, you can remove all or some items by specifying the Quantity to Remove. The item quantity that is removed can be built into a brand new or existing unit pack or they can become loose inventory.



Main

The Main panel displays inventory information for the unit pack or assembly pack that is being split. All fields in this panel are read only. For definitions of the read-only fields, see Serials on page 2968.

Contents

The Contents grid displays inventory information for all the items and/or packs on the selected Master pack. Some fields in the grid are read only. For definitions of the read-only fields, see Serials on page 2968.

Remove

Select the checkbox of the item or pack that will be removed.

Quantity to Remove

Enter the item quantity that will be split from the pack. The default value is the inventory quantity in the pack.

This field is editable when you split a unit pack that contains loose non-serialized items or when you split an assembly pack that contains loose non-serialized items directly on the master pack level.

This field is read only when splitting lower-level packs from a master pack.

Quantity in Pack

Displays the item quantity in the pack.

Split To

In the Split To panel, enter the Serial, Address, Pack Code, and Standard Pack Quantity information for the destination pack.

To Serial

The serial of the destination pack. The serial must be in New, Booked, Decommissioned, or Active stage.

If you enter a serial that does not exist, it must match the NRM sequence defined for the item/site/pack code/address combination defined in **Number Ranges**. Otherwise, you receive an invalid number format error.

If you enter an Active serial, make sure that it is not linked with a DO and that its site/location is the same as the From serial. If the entered From serial is booked for a master SO line, make sure that the To serial is booked for the same master SO line. If the From serial is not booked, the To serial cannot be booked, either.

Address

Optionally, enter the code that uniquely identifies the name and address record, usually of a customer or supplier.

Note If you are creating a new serial and want to use a specific serial range associated with a specific Item/Site/Address/Pack Code combination, make sure to enter that information in the To Pack Code and Address fields. For more information about serial ranges, see Serial Ranges on page 3054.

To Pack Code

If necessary, enter the pack code of the destination pack:

- **Brand-new packs**. If you are creating a brand-new pack, enter the To Pack Code and leave the To Serial field blank. Upon submit, the system builds the split inventory into the newly created pack that you specified.

- **Create loose inventory**. If you are splitting a unit pack that contains non-serialized items, enter blank in the To Serial and To Pack Code fields. Upon submit, the items in the unit pack are removed and become loose inventory in the same Site and Location as the original pack.
- **Create Active packs**. If you are splitting as assembly pack that contains lower-level packs, enter blank in the To Serial and To Pack Code fields. Upon submit, the packs that are removed change from Aggregated to Active stage and they are located in the same Site and Location as the assembly pack.

Note When you enter an existing serial in the To Serial field, the associated pack code defaults into the To Pack Code field.

Standard Pack Quantity

Enter the standard quantity of inventory items that can be held in the generated destination pack.

To Stage

Displays the serial stage of the pack.

Receive Unplanned Pack

This action supports the following use case scenarios:

- Creating and receiving unit packs
- Creating and receiving assembly packs
- Receiving inventory into existing unit and assembly packs
- Receiving serialized items as loose inventory

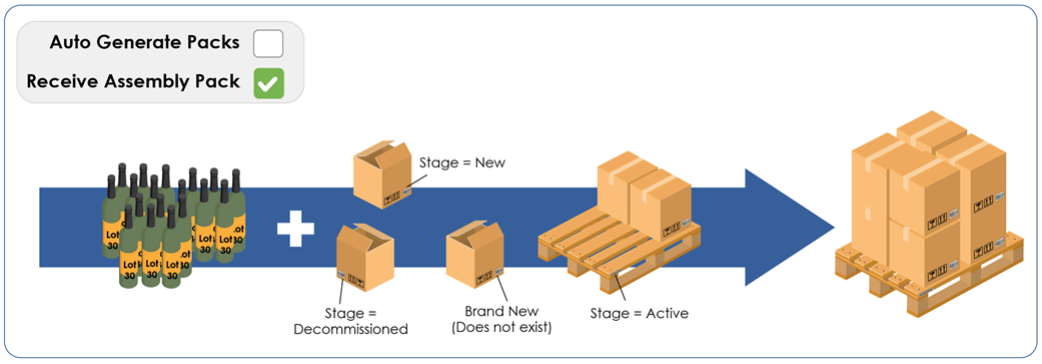
For instructions on using this action, see Using the Receive Unplanned Pack Action on page 3046.

Note When using the Receive Unplanned Pack action, you can only create a maximum of 500 serials per transaction.

For unplanned receipts of loose non-serialized inventory, use the **Inventory Detail** > Receive Unplanned action.

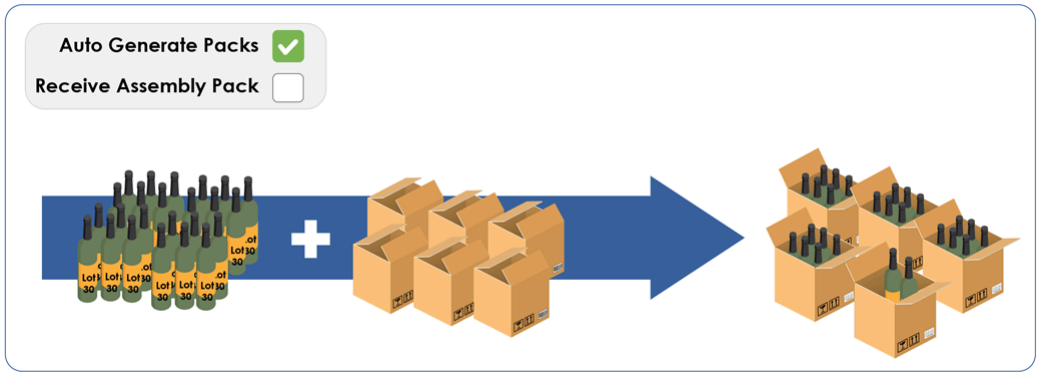
Creating and Receiving Unit Packs

You can use the Receive Unplanned Pack action to create and receive unit packs with serialized or non-serialized items. You can create a new unit pack during the transaction or you can load and receive the items into an existing unit pack in New, Active, or Decommissioned stage. The serialized items can be existing and you can enter the item unit serials manually or you can have the system automatically generate new item unit serials.



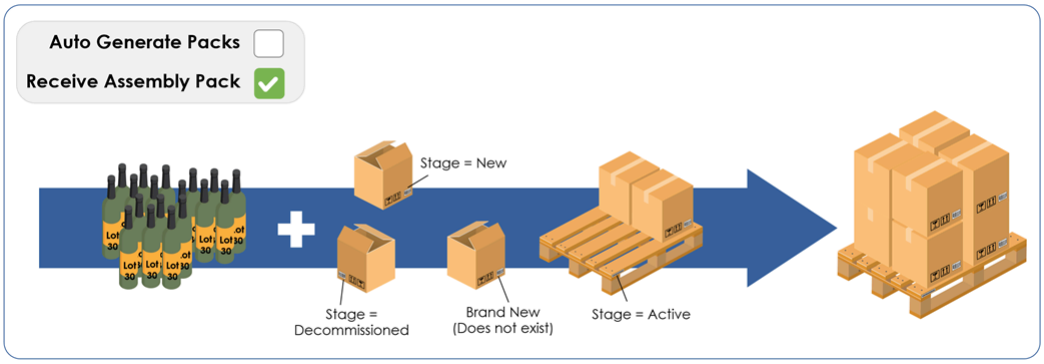
If necessary, you can receive a mixed unit pack that contains different items and/or lot numbers. For example, you can receive a unit pack that contains different 500-ml and 750-ml olive oil bottles or the same 500-ml olive oil bottle from different inventory lots.

You are also able to build and receive multiple unit packs at once and to specify the quantity in any partially filled packs.

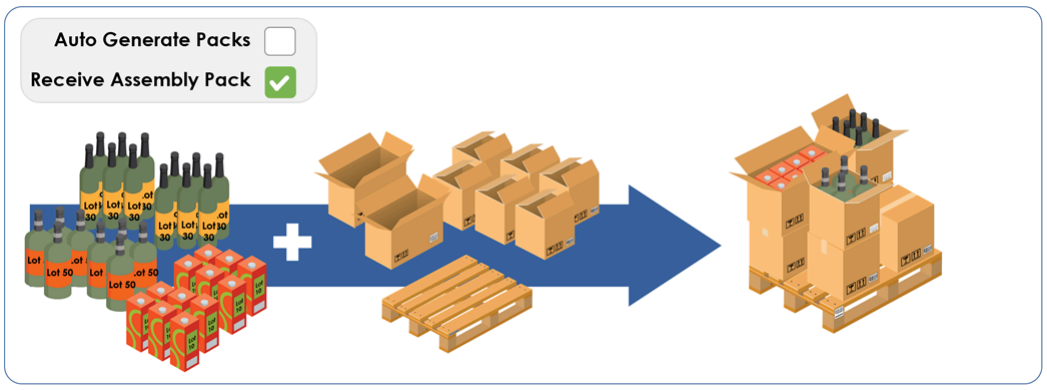


Creating and Receiving Assembly Packs

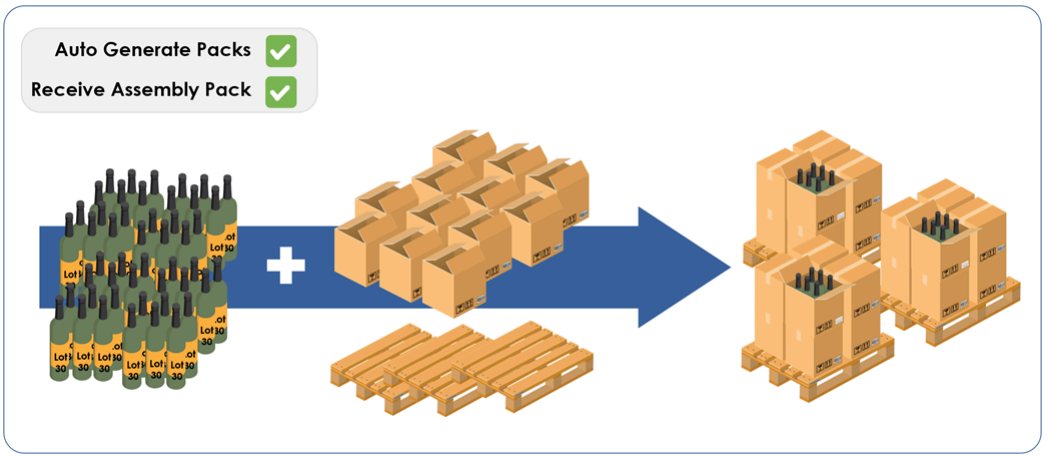
You can use the Receive Unplanned Pack action to create and receive a multilevel assembly pack based on a BOP Code. You can also leave the BOP Code blank and manually build a multilevel assembly pack. You can build the assembly pack with serialized or non-serialized items.



If necessary, you can build a mixed assembly pack that contains different items and/or lot numbers.

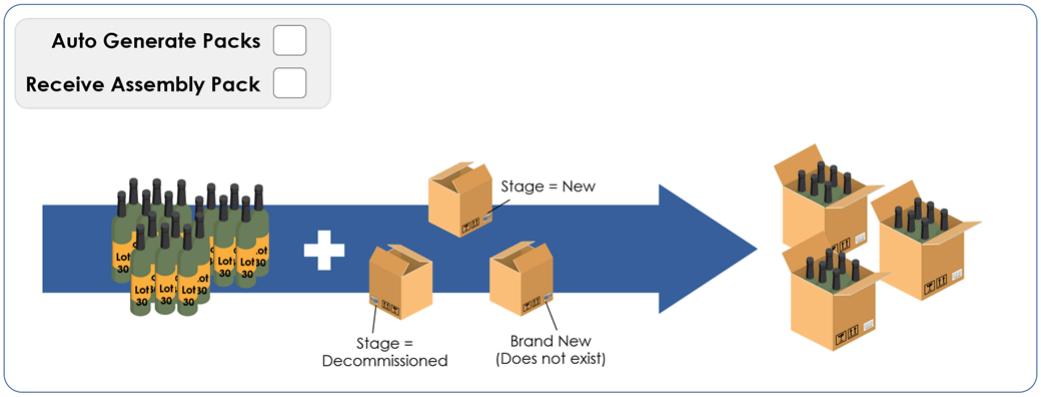


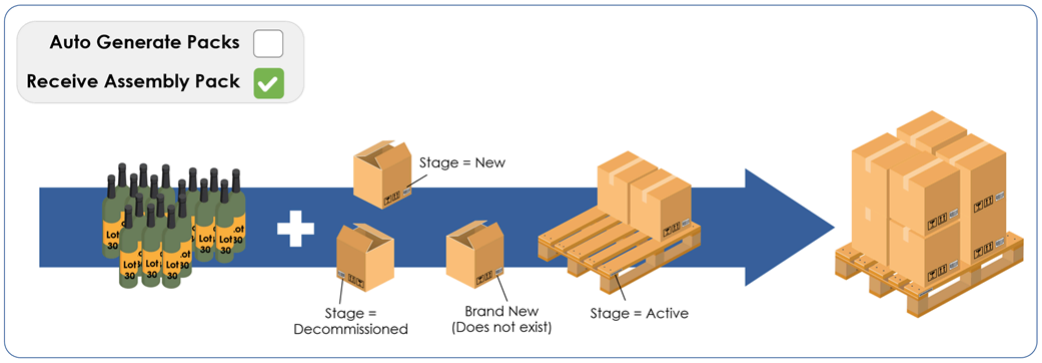
You can also receive multiple assembly packs by selecting both the Receive Assembly Pack and Auto Generate Packs options. If you receive more packs than what is defined in the BOP, you can overload the assembly pack or create multiple assembly packs.



Receiving Inventory into Existing Packs

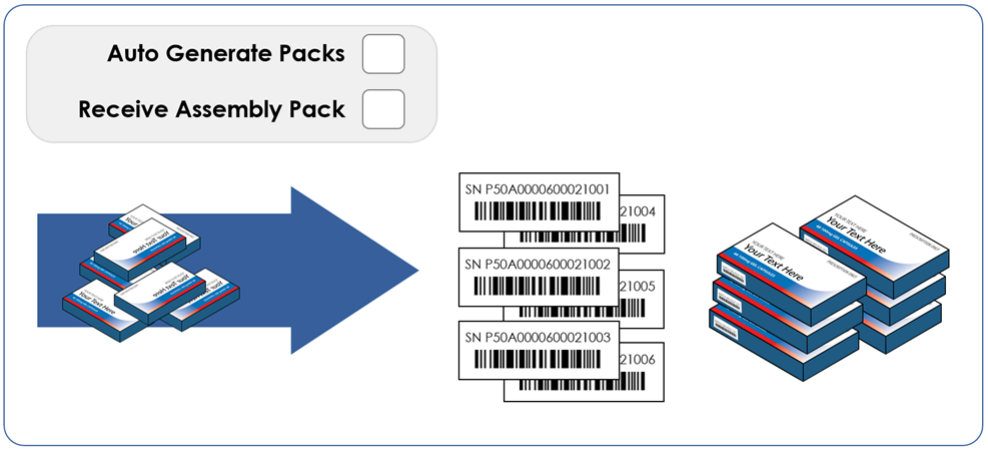
You can use the Receive Unplanned Pack action to receive inventory into existing unit and assembly packs that are in New, Active, or Decommissioned stage.





Receiving Serialized Items as Loose Inventory

You can use the Receive Unplanned Pack action to receive loose serialized items. The serialized items can be existing in the New or Decommissioned stage, or you can have the system auto-generate new serials for each item during the receipt transaction.



Main

Site

Enter a valid site where items are stored.

Location

Enter a valid location where items are stored.

Auto Generate Packs

Select this option to populate the Contents grid with multiple unit packs at once based on the BOP Code entered. You can also populate the Contents grid with multiple assembly packs by selecting both Auto Generate Packs and Receive Assembly Pack.

- **Receiving Multiple Unit Packs**. When Auto Generate Packs is selected, the Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields are displayed in the Contents panel. These fields allow you to easily populate the Content grid with multiple unit packs. After entering the pack quantities, select Apply to populate the grid with the appropriate number of unit packs.
- **Receiving Multiple Assembly Packs**. When Auto Generate Packs and Receive Assembly Pack are both selected, the Number of Assembly Packs, Number of Child Packs, and Standard Child Pack Quantity fields are visible in the Contents panel. These fields allow you to easily populate the Content grid with multiple assembly packs. After entering the pack quantities, select Apply to populate the grid with the specified number of assembly packs.

Each time you select Apply, the Contents grid is updated to reflect the quantities entered in the Number of Assembly Packs, Number of Child Packs, and Standard Child Pack Quantity fields.

Do not select Auto Generate Packs if you are scanning or generating the pack serials manually.

Receive Assembly Pack

Select this option if you are receiving a multilevel assembly pack. When this option is selected, the fields in the Contents grid change, allowing you to enter the master pack information in the parent row and the lower-level pack information in the child rows.

If you are receiving multiple assembly packs, select both Receive Assembly Pack and Auto Generate Packs. When these options are both selected, the Number of Assembly Packs, Number of Child Packs, and Standard Child Pack Quantity fields are displayed in the Contents panel. These fields allow you to easily populate the Content grid with multiple assembly packs. After entering the pack quantities, select Apply to populate the grid with the specified number of assembly packs.

Each time you select Apply, the Contents grid is updated to reflect the quantities entered in Number of Assembly Packs, Number of Child Packs, and Standard Child Pack Quantity fields.

Item

Enter the item stored in the pack or leave blank.

If you are receiving packs that contain the same item, enter the item in the Main panel. When item information is entered in the Main panel, it defaults into the Contents grid when rows are added.

If you are receiving a mixed pack with different items, leave this field blank and enter it in the Contents grid.

Lot/Serial

Enter the lot/serial number of the item held in the pack or leave blank.

If you are receiving packs that contain the same lot/serials, enter the lot/serial in the Main panel. When lot/serial information is entered in the Main panel, it defaults into the Contents grid when rows are added.

If you are receiving a mixed pack with different lot/serials, leave this field blank and enter it in the Contents grid.

Reference

Enter a reference for the item. When the serial label has been printed, Reference is display-only.

If you are receiving packs that contain the reference information, enter the reference in the Main panel. When reference information is entered in the Main panel, it defaults into the Contents grid when rows are added.

If you are receiving a mixed pack with different reference information, leave this field blank and enter it in the Contents grid.

Address

Enter the address for this transaction.

Contents

The fields in the Contents panel and the grid change depending on whether the Auto Generate Packs or Receive Assembly Pack options are selected.

The BOP Code, Effective Date, and Inventory Movement Code fields are always displayed in the panel, whether the Auto Generate Packs or Receive Assembly Pack options are selected.

Fields Available When Auto Generate Packs is Selected

When the Generate Packs option is selected, the Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields are visible in the Contents panel. These fields allow you to easily populate the Contents grid with multiple unit packs. After entering the pack information, select Apply to populate the grid with the appropriate number of packs.

Each time you select Apply, the Contents grid is updated to reflect the quantities entered in the Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields.

Fields Available When Auto Generate Packs and Receive Assembly Pack are Selected

When Auto Generate Packs and Receive Assembly Pack are selected, the Number of Assembly Packs, Number of Child Packs, and Standard Child Pack Quantity fields are visible in the Contents panel. These fields allow you to easily populate the Content grid with multiple assembly packs. After entering the pack information, select Apply to populate the grid with the specified number of assembly packs.

Each time you select Apply, the Contents grid is updated to reflect the quantities entered in the Number of Assembly Packs, Number of Child Packs, and Standard Child Pack Quantity fields.

BOP Code

Enter the bill of packaging (BOP) code or accept the default based on the inventory information entered in the Main panel.

In the Contents grid, the Pack Code defaults based on the BOP Code entered. When a BOP Code is entered, the Pack Code field is read only. When the BOP Code is blank, the Pack Code is editable. This provides flexibility and allows you to receive based on a packaging structure or by a specified pack code.

Note If the Item/Site combination (or the item with a blank site) record exists in Dual Units of Measure:

- The BOP must be defined as a one level structure in the Packaging Structures.
- The BOP must have the Single Item and the Single Lot checkbox selected in Pack Codes.
- The Pack Code UM must match Secondary Unit of Measure.
- The BOP Quantity Per in Packaging Structures has to be equal to the Target Quantity or within the Tolerance limit set in Dual Units of Measure.

Effective Date

Optionally, enter the general ledger (GL) effective date for this transaction. The default is the system date.

Inventory Movement Code

Optionally, enter an inventory movement code for this transaction.

Inventory movement codes determine the default **Number Ranges** sequences, carriers, and document formats. If specified, the system verifies that the code exists in the inventory movement detail record for

the shipping group. If no shipping group is available for the Ship-From and Ship-To/Dock address combination, leave this field blank.

You are required to have access to this inventory movement code, defined in **Inventory Movements** > Site Security panel.

Number of Full Packs

Enter the number of full packs to receive. This field is only visible when Auto Generate Packs is selected. The Number of Full Packs and the Quantity in Partial Pack cannot both be zero. Otherwise, an error is displayed when you select Apply.

When you select Apply, the system adds the number of packs entered in this field to the Contents grid. Each pack that is added to the Contents grid contains the number of items entered in the Standard Pack Quantity field.

Quantity in Partial Pack

If you are receiving a pack that is partially full, enter the number of items in that pack. This field is only visible when Auto Generate Packs is selected. The Number of Full Packs and the Quantity in Partial Pack cannot both be zero. Otherwise, an error is displayed when you select Apply.

Standard Pack Quantity

Enter the number of items in a standard pack. This field is only visible when Auto Generate Packs is selected.

Number of Assembly Packs

Enter the number of assembly packs to receive. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.

When you select Apply, the system adds the number of assembly packs entered in this field to the Contents grid. Each assembly pack that is added to the Contents grid contains the number of child packs entered in the Number of Child Packs field.

Number of Child Packs

Enter the number of child packs that each assembly pack contains. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.

If the number of child packs exceeds the amount defined in the BOP Code, the system displays a confirmation message saying that the assembly pack is overloaded and prompts you to create multiple assembly packs. Select Yes to create multiple assembly packs based on the BOP Code. Select No to create an overloaded assembly pack.

When you select Apply, the system adds the number of child packs entered in this field to each assembly pack in the Contents grid. Each

child pack that is added to the Contents grid contains the number of items entered in the Standard Child Pack Quantity field.

Standard Child Pack Quantity

Enter the number of items in the child pack. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.

Contents Grid

In the Contents grid, enter the information for the packs or items being received. To add a row, select New. To add a child row, select the parent row and select Add Child. To add more child rows to a parent row, select a child row and select New.

The Item Serials button allows users to enter item unit serials manually. This option is only enabled when a serialized item unit (**Items** > Serial Control = Mandatory) is entered in the Contents grid and Generate Item Serial is not selected. When Generate Item Serial is selected, this option is not enabled.

Serial

The serial of the pack being received. Enter an existing serial or leave the field blank so that the system can generate the serial on Submit.

Parent Serial

The serial of the master pack being received. Leave the field blank so that the system can generate the serial on Submit.

Child Serial

The serial of the lower-level pack being received. Enter an existing serial or leave the field blank so that the system can generate the serial on Submit.

Pack Code

The pack code for the pack being received.

The Pack Code defaults based on the BOP Code entered. When a BOP Code is entered, the Pack Code field is read only. When the BOP Code is blank, the Pack Code is editable. This provides flexibility and allows you to receive based on a packaging structure or by a specified pack code.

Mixed Pack

Indicates if the pack contains different items and/or lot/serials. When child rows are added and they specify the different items and/or lot/serials to be received, this option is automatically selected.

Item

Enter the item stored in the pack.

If you are receiving a mixed pack with different items, leave the Item field in the Main panel blank and enter the item in the grid rows.

When a serial for a non-assembly pack is entered in the Serial field, this field is display-only.

When the Serial field is blank or does not exist in the system, you can edit this field to determine the pack sequence ID.

Description

The item description. This field is display-only.

Site

The site where the items are stored. This defaults from the Site field in the Main panel.

Location

The location where the items are stored. This defaults from the Location field in the Main panel.

Lot/Serial

Enter the lot/serial number of the item held in the pack.

If you are receiving a mixed pack with different lot/serials, leave the Lot/Serial field in the Main panel blank and enter the Lot/Serial in the grid rows.

Reference

Enter a reference for the item.

If you are receiving a mixed pack with different reference information, leave the Reference field in the Main panel blank and enter the Reference in the grid rows.

Quantity

Enter the quantity to be received.

UM

The item's unit of measure.

Generate Item Serial

When selected, the system automatically generates serials for each inventory unit. The system only generates item unit serials if the item is serial controlled (**Items** > Serial Control = Mandatory).

When a serial-controlled item is entered, this option is automatically selected. If necessary, you can clear this checkbox. If the item is

serial controlled and this option is not selected, the Item Serials button becomes enabled, allowing you to enter the item unit serials manually.

If the Item entered is not serial controlled (**Items** > Serial Control = blank), the Generate Item Serial option is disabled and not selected.

Order

Optionally, enter the order number associated with this inventory transaction.

Line

Optionally, enter the line item number associated with this inventory transaction.

Sales/Job

Optionally, enter a code associating this inventory transaction with a particular unit of work.

Address

Optionally, enter a code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier.

Remarks

Optionally, enter brief remarks associated with this transaction.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

Cr Acct

Optionally, enter the general ledger (GL) account code used to track credit amounts for this inventory transaction. This must be a valid, active account of type Standard.

Cr Sub-Acct

Optionally, enter the GL sub-account code used to track credit amounts for this inventory transaction.

Cr Cost Ctr

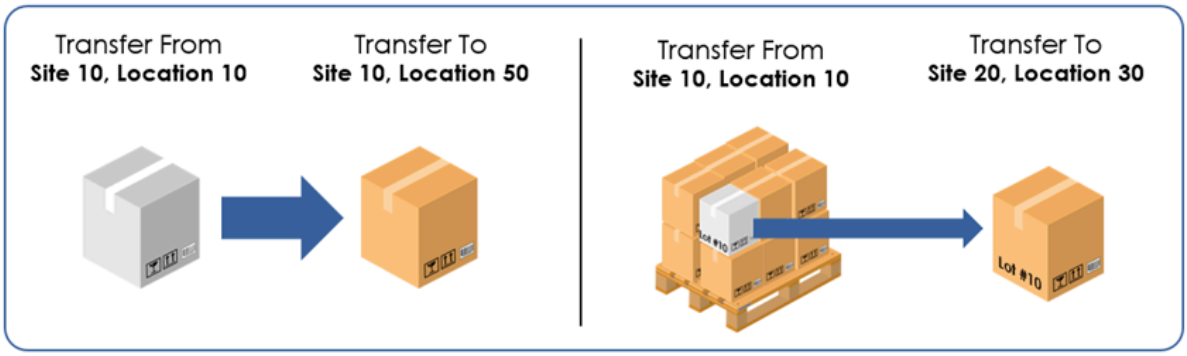
Optionally, enter the GL cost center code used to track credit amounts for this inventory transaction.

Cr Project

Optionally, enter a code identifying the default GL project to be credited by this inventory transaction.

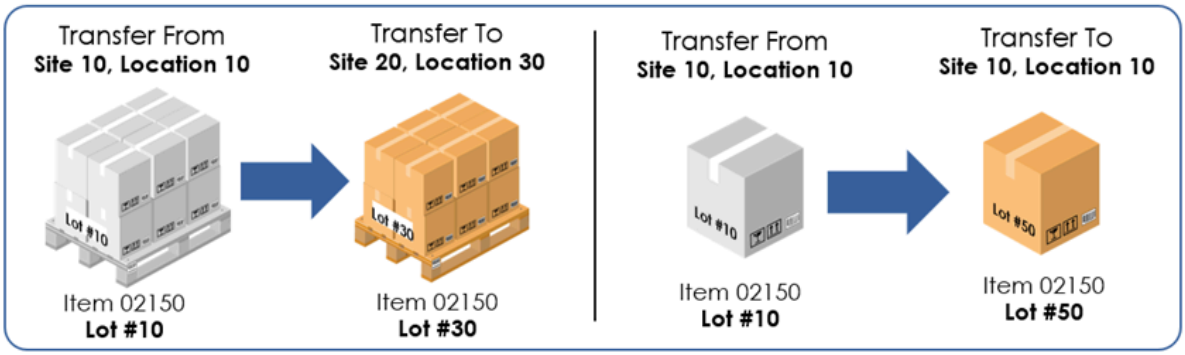
Transfer Pack

This action allows you to transfer unit packs or assembly packs that contain serialized or non-serialized items. To use this action, the packs must be in the Active, Aggregated, or Picked stage. If a unit pack is in Aggregated stage, the system prompts you to remove the pack from the master pack before transferring the pack to the new site and location.



When transferring a pack, you can change the Lot/Serial and Reference of a pack as long as the pack is homogeneous and contains the same items, lot/serials, and reference information. If the pack is mixed and has different Lot/Serials and Reference information, the To Lot/Serial and To Reference fields are display only.

You can use this action only to change the Lot/Serial or Reference of a pack. It is not required that the pack is transferred to a different location.



For a procedure on using this action, see Using the Transfer Pack Action on page 3051.

When using the Transfer Pack action, the system creates serial history records, which can be viewed in **Serial History**.

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the record you are working on, including the serial, stage, and pack code. These fields are read-only and stay in view when scrolling down the page.

The panels will be available and populated according to the shipping information entered.

Main

Serial

Displays the serial for the pack being transferred.

Item

Displays the item in the pack that being transferred. If there are different items in the pack, this field is blank.

Stage

Displays the serial stage of the pack being transferred.

Pack Code

Displays the pack code of the pack being transferred.

Effective Date

Enter the general ledger (GL) effective date for this transaction. The default value is the system date.

Order

Enter a valid sales, work, or purchase order number and line for the transaction. The number can also be an RMA/RTS number or any other user-defined value.

Sales/Job

Enter the sales order number referenced to the inventory transaction.

Remarks

Optionally, enter brief remarks associated with this transaction.

External Serial

The external serial provided by the supplier. The external serial and the origin code serve as an extension for the serial master, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

Transfer

From Site

Displays the site where the pack is transferred from.

From Location

Displays the location where the pack is transferred from.

From Lot/Serial

Displays the lot/serial of the pack being transferred.

From Reference

Displays the reference information associated with the pack being transferred.

From Inventory Status

Displays the inventory status of the location where the pack is transferred from.

To Site

Enter the site where the pack will be transferred to.

To Location

Enter the location where the pack will be transferred to.

To Lot/Serial

If change is required, enter the new lot/serial.

You can only change the lot/serial if the pack that is transferred is homogenous and contains the same items, lot/serials, and reference information. If the pack is mixed, this field is not editable.

To Reference

If change is required, enter the new reference information.

You can only change the reference information if the pack that is transferred is homogenous and contains the same items, lot/serials, and reference information. If the pack is mixed, this field is not editable.

To Inventory Status

Displays the inventory status of the destination site and location.

If the inventory status for the From location is different than the inventory status for the destination location, when you select Submit, the system displays a message indicating that the inventory statuses are different. You are then prompted to select either the From or To inventory status:

- If you select To, the system uses the inventory status code of the Transfer To location and then completes the transfer.
- If you select From, the system checks if there is inventory in the Transfer To location before completing the transfer.

  Note

  - If Quantity on Hand is not zero, you cannot do the transfer and the system will show an error message.
  - If Quantity on Hand is zero and there is no physical inventory in the destination, the inventory will be transferred.

Shipping Documents Panel

The Shipping Documents panel, Shipper Options and Carriers subpanels will be displayed if there is a shipping group configured for the site or the location combination entered in the Options panel.

Create Shipping Documents

Select this checkbox to create a non-sales shipper for the transfer transaction. By default, this checkbox is selected.

Inventory Movement

Displays the default inventory movement code that is defined in Shipping Groups for this transfer transaction.

If there is only one inventory movement code defined for the shipping group, this field is read only. If there is more than one inventory movement code defined for the shipping group, you can change the code or accept the default one.

Shipper

The shipper number for this transfer transaction. By default, this field is blank. When entering the shipper number, you can:

- Leave the field blank to allow the system to automatically generate a shipping number.
- Enter an existing unconfirmed shipper number to consolidate the transferred items with another shipment. In this scenario, the From and To Sites/Locations for the shipper entered must match the From and To Sites/Locations in the Transfer panel. The Consolidate Shipment field must also be set to Yes. Upon Submit, the existing shipper is updated to include the transferred items.

Shipping Group

Displays the shipping group associated with the transfer transaction.

Status

Displays the current status of the shipper, which defaults from the Create Shipper field in the **Logistics Control** > Non-Sales Shipper panel:

- If the Status field in Logistics Control is set to Confirmed or Unconfirmed, then this field is read only.
- If the Status field in Logistics Control is set to Optional, then this field is enabled, allowing you to set the status to Confirmed or Unconfirmed.

Print Shipper

Select this checkbox to print the non-sales shipping document for this transfer transaction after clicking **Submit**.

Shipper Options Subpanel

Document Format

The document format used to print this shipper. The document format must be a valid format of a type applicable to shippers. This value defaults from the setting in Shipping Groups and then if not defined, it defaults from Logistics Control.

Language

The language for the shipper, which defaults from the setting in Domains.

Consolidate Ship

Specifies if consolidating shipments with an existing unconfirmed non-sales shipper is prohibited or allowed. This value defaults from the Consolidate Ship field in Shipping Groups:

- If the Consolidate Ship setting in Shipping Groups is Yes or No, then this field is read only.
- If the Consolidate Ship setting in Shipping Groups is Optional, then this field is enabled, allowing you to set the value to Yes or No

Carriers Subpanel

This panel displays the list of carriers that were set up in Shipping Groups for the associated inventory movement code. If necessary, you can add a carrier to the grid by clicking **New**.

Sequence

This field indicates the order in which the various carriers handle shipments. The Ship-From site of a shipment turns over possession to the first carrier, which may later turn over possession to a second carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

Carrier

The carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name

Displays the name of the Carrier as defined in Carriers.

Ship Via

Enter a code identifying the carrier responsible for this shipment. This field is mandatory. By default, this field is blank.

Terms of Trade Point

Enter the terms of trade point for this shipment. The terms of trade point identifies when title passes to the buyer from the seller, as well as who pays shipping. By default, this field is blank.

Mode of Transport

Enter the mode of transport for the shipment such as air or sea. This field is for reference only. By default, this field is blank.

Carrier Shipment Reference

Enter a shipment reference number supplied by the carrier such as a bill of lading number, carrier tracking number, or packing slip number. By default, this field is blank.

Vehicle ID

Optionally, enter an identifier representing the carrier's vehicle. This field is for reference only. By default, this field is blank.

Payment Type

Specify the payment type. Use Payment Type and Carrier Account to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Carrier Account

Specify the carrier account code. Use Carrier Account and Payment Type to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Creating Shipping Documents

In some business environments, formal shipping documents must accompany any movement of goods, even when goods are only transferred and not sold. When using this action to transfer inventory between two different sites, global shipping functions determine if a shipping document is needed. If a shipping group is set up in Shipping Groups with a valid inventory movement code (ISS-TR and/or CN-ISS TR) for the sites/locations specified in the Transfer Action, an additional Shipping Documents panel is displayed to let you create a shipping document for the shipment.

Note If you create non-sales shippers when using the Transfer transaction, tax is not created.

Bulk Transfer Pack

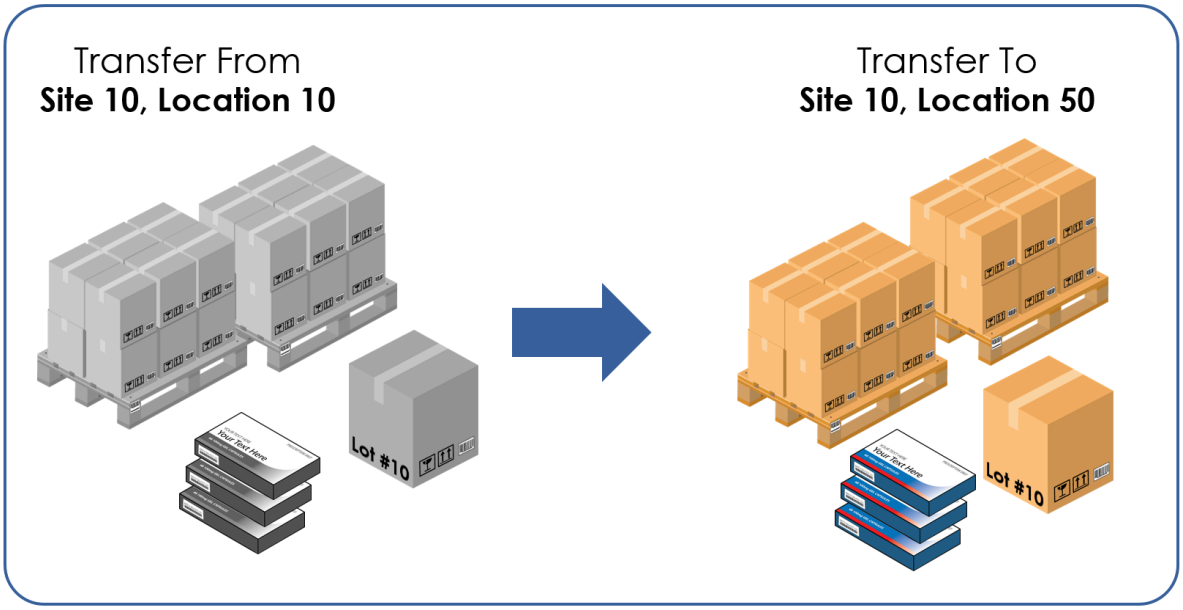
Use the Bulk Transfer action to transfer the entire on-hand quantity of an item or group of items from one site or location to a different site or location.

This action allows you to select items to transfer by item number, product line, default supplier, ABC class, or any combination of these criteria.

This action transfers the entire quantity on hand for each selected item from the specified transfer-from location. If you need to transfer only some of the quantity on hand of a particular item, do this using the Transfer Action.

When you define a location as permanent in Locations, that location is maintained in the system even when its quantity on hand is zero.

To more efficiently manage serialized inventory, this action allows users to transfer multiple packs at one time to a different site or location. Only packs with a Master Pack Stage of Active or Picked can be transferred using this action.



Before using the Bulk Transfer action, you should first filter for a group of serials in the **Serials** browse. Then in the Bulk Transfer Pack window, you can apply more search options that narrow down the serials you want to transfer.

For a procedure on using this action, see Using the Bulk Transfer Pack Action on page 3052.

When using the Bulk Transfer Pack action, the system creates serial history records, which can be viewed in **Serial History**.

The Transfer Zero on Hand option determines if zero quantities at permanent transfer-from locations are reflected at permanent transfer-to locations for items that match the specified selection criteria.

- When this option is selected and the item's quantity on hand is zero, the system creates a new record for that item at the transfer-to location with a quantity of zero. Use Zero Balance Delete/Archive to delete zero-quantity item records from inventory locations as needed.

- When this option is not selected, the system skips items that have an on-hand quantity of zero and does not create records for them at the transfer-to location.

  The Transfer if Different Status option determines if items may be transferred into a site and location that has a different inventory status than the current one.
- When this option is selected, the system transfers items regardless of inventory status and automatically assumes the default inventory status of the transfer-to location.
- When this option is not selected, the system transfers only items whose inventory status matches the default inventory status of the transfer-to location.

Reversing a Transfer

To reverse an inventory transfer, switch the values in the Transfer From Site and Location fields with those in the Transfer To Site and Location fields. Then, use the Transfer or Bulk Transfer action again for the same item or group of items as in the original transaction.

Inventory Transaction Records

Inventory transfers generate transaction history record types ISS-TR and RCT-TR.

Consigned Inventory

If you use the optional Customer Consignment Inventory module, additional transactions occur when you transfer consigned items. In addition to the standard transaction history record types (ISS-TR and RCT-TR), consignment transaction history (CN-ISSTR and CN-RCTTR) is also generated. Appropriate GL updates are also made to consignment accounts.

If you use the optional Supplier Consignment Inventory module, additional transactions occur when you transfer consigned items when Transfer Ownership is selected for the receiving location. In this case, consignment transaction history (RCT-PO and CN-ISS) is generated in addition to the standard transaction history record types (ISS-TR and RCT-TR). Appropriate GL updates are also made to consignment accounts. When reversing a correction to a transaction, the destination site settings must have the Transfer Ownership option in Sites selected.

General Ledger (GL) Effects

GL transactions created by inventory movements (type IC) are stored in the unposted transaction table until they are posted using Operational Transaction Post. Review unposted transactions with Unposted Transaction Inquiry and Register.

Processing an inventory transfer:

- Debits the Inventory accounts for the product lines of the transferred items at the transfer-to site and location.
- Credits the Inventory accounts for the product lines of the transferred items at the transfer-from site and location.

You can define inventory accounts for product line, site, and location combinations in Inventory Accounts. Otherwise, the system uses the default accounts set up by product line in Product Lines.

When inventory transactions affect more than one site, costs may differ between the two sites. Cost variances are posted to the Transfer Variance account defined for the item product line and site in Inventory Accounts, if available. Otherwise, the account defined for the site in Site Is used.

The system automatically generates the appropriate balancing transactions in the GL for each site.

When the transfer-from and transfer-to sites are in different entities, a balancing entry is posted to the appropriate Cross-Company Inventory Control account defined for the domain referencing the intercompany codes associated with the entities.

When the two sites are in the same entity, a balancing debit or credit is posted to the Transfer Clearing account defined in Inventory Control > Inventory Accounting panel.

When transferring between sites, any cost sets at the transfer-to site that use the average or last cost method are updated based on the item costs at the transfer-from site.

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the record you are working on, including the lines selected, from site, from location, to site, and to location. These fields are read-only and stay in view when scrolling down the page.

The panels is available and populated according to the shipping information entered.

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

From Site

Enter the site from which the inventory is transferred..

From Location

Enter the location from which the inventory is transferred.

Effective Date

Enter the date the stock must be transferred.

To Site

Enter the site to which the inventory is transferred..

To Location

Enter the location to which the inventory is transferred.

Remarks

Use this field to type any comments that you want to record with the transfer.

Transfer Different Status

Select this option if the packs can be transferred into a site and location that has a different inventory status than the current one.

- **Selected**. When selected, the transfer is processed regardless of the inventory status
- **Not Selected**. When not selected, the Transfer grid only displays packs with the same inventory status as the To Site and To Location. Any packs with a different inventory status as the To Site and To Location are not displayed in the grid and therefore are not transferred

The Bulk Transfer Pack action takes a range of serialized packs and transfers them from one site and location to another. It is possible that the location may be set up with a different status at the other site and location. For example, location 1 at site 1 may have a status code that is Nettable, but at site 2 it may have a status code that is Non-nettable. If you allow a pack to be transferred from a nettable to a non-nettable status, MRP no longer sees this as quantity on hand. You may or may not want to do this.

Transfer Zero On Hand

Select this option to transfer items with a zero on-hand balance.

- **Selected.**When selected, items with a zero on-hand balance are transferred
- **Not Selected.**When not selected, items with a zero on-hand balance are not transferred

Inventory locations can be set up as Temporary or Permanent. When locations are set up as Permanent, the system maintains inventory details even after the on-hand balance falls to zero. Temporary locations are created and deleted automatically by the system.

The use of temporary locations helps to keep inventory reports at a reasonable length, particularly when there are lot/serial controlled items with zero balances. When a location is defined as permanent,

all location details are maintained on the system until they are deleted using the Zero Balance Delete/Archive.

Permanent inventory locations may be desirable when items have fixed or designated stocking locations. For example, a particular resistor is always stored in a specific bin location. Even if the inventory balance falls to zero, you want to see that on reports and inquiries.

If location coding schemes are changed, you may want to transfer all items, regardless of their on-hand balance, to the new location.

Search

Select Search to populate the Transfer panel with items that are available to transfer based on the information entered in the Options and Additional Criteria panels.

Reset Criteria

Select Reset Criteria to reset the Options panel and blank out any data that has been entered.

Transfer Panel

Item

Displays the item being transferred. Value defaults from browse. This can be an item in a pack or a loose serialized item. If there are multiple items in the pack, this field is blank.

Item Description

Displays the item description. If there are multiple items in the pack, this field is blank.

From Site

The site from which the inventory is transferred.

From Location

The location from which the inventory is transferred.

Location Quantity

Quantity at selected location.

Unit of Measure

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in Generalized Codes, if any.

Lot/Serial

The lot/serial number associated with this inventory quantity.

Inventory Status

The inventory status code associated with the inventory quantity at the original location. Value defaults from browse.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Set up inventory status codes in Inventory Status Codes.

Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- The production order or PO Receipt Status settings in Items
- Settings in Inventory Detail
- The default inventory status for the receiving location or site, set up in Locations or Sites

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers.

You can apply field security to this field to restrict access.

If you do not have access to the Inventory Status field (ld_status), transferred items must assume the default inventory status of the transfer-to location. In this case, you must respond Yes to the "Use to status?" prompt. For example, a restricted user transferring items from location 100, with a default inventory status of GOOD, to location 200, with a default inventory status of INSPECT, cannot have the transferred items retain the GOOD inventory status.

Using Bulk Transfer

Use the Bulk Transfer action to transfer the entire on-hand quantity of an item or group of items from one site or location to a different site or location.

Follow these steps to use the Bulk Transfer action to transfer items from one site or location to a different site or location:

1. In Serials, use the browse filters to search for the items to transfer. Then select the Bulk Transfer action. The Bulk Inventory Transfer screen opens.
2. In the Options panel, enter the relevant transfer information in the From Site, From Location, To Site, To Location, Effective Date, and Remarks fields.
3. In the Options panel, specify if the items may be transferred into a site and location that has a different inventory status than the current one

(Transfer Different Status) and if you want to transfer items with a zero on-hand balance (Transfer Zero On Hand).

4. Select Search to populate the Transfer panel with the items available to transfer based on the Search Criteria and Options. By default, each item is selected.
5. In the Transfer panel, specify which items will be transferred by selecting the corresponding check boxes.
6. Select Submit to transfer the items.

Using the Build Pack Action

Follow these steps to load serialized or non-serialized items into a unit pack or load lower-level packs onto a master pack:

1. In **Serials**, select the Build Pack action. The Build Pack window opens.
2. Follow this step if you are loading inventory into an existing pack:
   a. Enter the serial in the Master Serial field. Only packs in New, Active, or Decommissioned stage are supported.
   b. The inventory detail information is defaulted into the Main panel. Edit these fields if necessary. If the Master Serial stage is New, the Site, Location, and Item fields can be modified. If the Master Serial stage is Active, then all the other fields are disabled.
3. Follow this step if you are creating a brand new master pack or unit pack:
   a. Leave the Master Serial field blank. When blank, the system generates a new serial.
   b. In the Main panel, enter the Item, Site, Location, and Address information.
   c. Enter or modify the Pack Code. When building a brand new pack, the default Pack Code is based on the packaging structure defined in Item Packaging. If a packaging structure does not exist for the Site, Item, Address combination, the Pack Code is blank.

      Note When building a mixed pack with different items and/or lot/serials, the pack code's Single Item and/or Single Lot settings in **Pack Codes** must be set to No.

   d. If you are loading packs, check the Standard Number of Child Packs field and edit if necessary. If you are loading items into a pack, check the Standard Pack Inventory and edit if necessary.
4. In the Contents grid, specify the inventory to be loaded into the pack. Select New to add a row to the Contents grid.
5. In the Type field, specify if you are loading a pack or loose inventory.
   - **Serial**. If you are loading serialized items or packs, select Serial and then enter the item unit or pack serial. The inventory information for the pack defaults into the row.

- **Item**. If you are loading loose non-serialized items, select Item and then enter the Item, Lot/Serial, and Quantity in Pack.

6. Optionally, add additional packs and loose inventory by adding rows to the Contents grid and repeating the previous step.
7. Select Submit to complete the transaction. If you created a brand new master pack or unit pack, a window is displayed showing the serial that was created.

Using the Change Serial Stage Action

Follow these steps to change the serial stage:

1. In **Serials**, select the serial record and then select the Change Serial Stage action. This action is only available when the pack stage is Booked, New, Pending, Consumed, Decommissioned, Unused, Inv Adjusted, or Aggregated.

   Note You can only change a pack in Aggregated stage if the master pack serial is in Pending or Inv Adjusted stage. When using this action for a pack in Aggregated stage, a Confirmation message prompts you to remove the unit pack from the master pack. Select Continue to remove the pack. When the unit pack is removed from the master pack, the unit pack stage changes to match the master pack stage, either Pending or Inv Adjusted.

2. From the To Serial Stage drop-down menu, select the stage you want to change the stage to.
3. Select Submit to complete the transaction.

Using the Commission Pack Action

Follow these steps to use the Commission Pack action to build packs based on a BOP structure:

1. In **Serials**, select the Commission Pack action. The Commission Pack window opens.
2. In the Main panel, identify the loose non-serialized inventory to be packaged by entering the Site, Location, Item, Lot/Serial, Reference, and Quantity information.
3. Optionally, in the Origin/Destination panel, enter a customer address.
4. Enter a new BOP Code or accept the default, which should have defaulted into the field based on the item, site, and address combination set up in **Item Packaging Assignments**.
5. Based on the Quantity and BOP Code entered, verify that the values for the full and incomplete packs are correct. If the quantities are correct, click Apply to populate the grid with the multi-level packs.

   Note The Full Master Pack, Incomplete Master Pack, Full Pack Quantity, and Incomplete Pack Quantity fields are calculated values based on the Quantity and the BOP Code entered.

6. Review the information in the pack structure grid and, if necessary, edit the Quantity in Pack or accept the default.

   Note In the grid, you can edit Quantity in Pack but only for the lowest-level pack in the BOP structure. For any level higher than the lowest level in the BOP structure, the Quantity in Pack is read only.

7. If all information is correct, click Submit to build the packs.

Using the Decommission Pack Action

Follow these steps to use the Decommission Pack action to decommission a unit or master pack and remove the contents:

1. In **Serials**, search for the pack to be decommissioned and then select the Decommission Pack action.

   Note If the pack is Aggregated, a confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack. When decommissioning an Aggregated pack, the system must first remove the pack from the master pack and change the stage to Active before you can continue with the transaction.

2. The Decommission Pack window opens. The serial and inventory detail information defaults into the fields in the Main panel and Contents grid.
3. If you are decommissioning a master pack, specify whether you decommission the master pack only or all levels of a BOP structure by selecting or not selecting the Decommission Master Pack Only checkbox.
   - **Selected**. Select this check box so that the system only decommissions the master pack. For example, if you are decommissioning a pallet with boxes of olive oil, and you select this option, the system only decommissions the pallet. The packs are removed from the pallet, their stage changes to Active, and the olive oil remains in the packs.
   - **Not Selected**. Do not select this option to decommission the entire BOP structure. Using the same example of a pallet of olive oil, if you decommission the full BOP structure, the system decommissions every pack in all the levels of the BOP structure. All the olive oil is removed from the BOP structure and it becomes loose inventory.
4. Select Submit to complete the transaction.

Using Create Pack to Create Brand New Packs

The Create Pack action allows users to create serials for brand new packs based on the pack code and the number of packs. Because this action does not require the inventory to be in stock, users can create packs before inventory is received from inbound or production order receipts or outbound during packaging.



Follow these steps to create brand new packs based on the pack code and the number of packs:

1. In **Serials**, select the Create Pack action. The Create Pack window opens.
2. In the Origin/Destination panel, specify the origin or destination of the pack by entering the Site and/or Address.
3. In the Inventory panel, enter the Item, Lot/Serial, Reference for the pack to be created.
4. Enter the Pack Code or accept the default value.

   Note The default is from the unit pack of the BOP structure, based on the Item, Site, and Address that is entered.
5. Specify the Number of Packs to be created. This value must be greater than zero.
6. Enter the Pack Quantity or accept the default value. This cannot be a negative value.

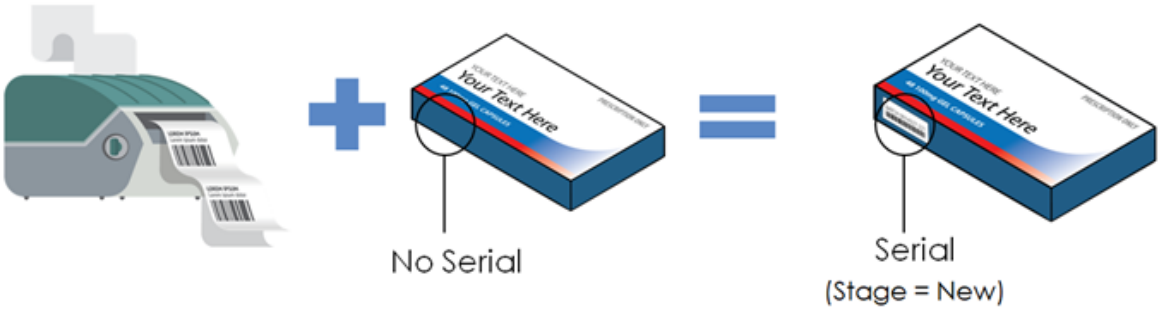
   Note The default is from the quantity per of the unit pack/inventory item level of the BOP structure, based on the Item, Site, and Address that is entered.
7. Enter the UM for the pack contents or accept the default value.

   Note The default is from the item UM. If an assembly pack code is entered, the value entered must be a pack UM.
8. Select Submit to complete the transaction and create the new pack. A window is displayed showing the serial created.
9. After creating the pack, users can view the newly created packs in **Serials**. You can also select the **Serial History** drill-down link to view the transaction that was created.

Using Create Pack to Create Item Unit Serials

When using the Create Pack action to create item unit serials, the system automatically generates the serials based on the Item, Lot/Serial, and Reference information that is entered.

When using this action to create item unit serials, the item's Serial Control setting must be set to M (Mandatory) in **Items**.



Follow these steps to create item unit serials:

1. In **Serials**, select the Create Pack action. The Create Pack window opens.
2. In the Origin/Destination panel, specify the origin or destination of the item by entering the Site and/or Address.
3. In the Inventory panel, enter the Item and Reference information.
4. Make sure the Lot/Serial and Pack Code fields are blank.

   Note When using the Create Pack action to create item unit serials, the Lot/Serial and Pack Code fields must be blank.
5. In the Number of Packs field, enter the quantity of item unit serials you want to create. This value must be greater than zero.

   Note When creating item unit serials, the Pack Quantity defaults to 1 and the UM defaults to the Item UM. Both fields cannot be changed.
6. Select Submit to complete the transaction and create the new pack. A window is displayed showing the serials that have been created.
7. After creating the item unit serials, users can view the serial information in **Serials**. You can also select the **Serial History** drill-down link to view the transaction that was created.

Using the Issue Unplanned Pack Action

Follow these steps to issue items or packs using the Issue Unplanned Pack action:

1. In **Serials**, select the serial record for the unit pack, master pack, or serialized item unit and then select the Issue Unplanned Pack action.

   Note You can only select unit packs in Active or Aggregated stage, master packs in Active stage, loose serialized item units in Active stage, and packs that contain serialized item units in Active stage. If you selected a pack that is Aggregated, a confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack. The Issue Unplanned Pack window

opens and the serial and inventory detail information defaults into the fields.

2. The Issue Unplanned Pack window opens. If you selected a pack that is Aggregated, a Confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack. The Issue Unplanned Pack window opens and the serial and inventory detail information defaults into the fields.

   Note To issue inventory from a pack, the pack must be in Active stage. When issuing inventory from a pack that is Aggregated, the system must first remove the pack from the master pack and then change the stage to Active before you can continue with the transaction.

3. In the Contents panel, specify the inventory to be issued:
   - If you selected a unit pack, select the Issue checkbox for the items to be issued and then enter the Quantity to Issue. If you issue all the items in the pack, the pack stage changes to Consumed after the transaction is completed. If you issue some of the items in the pack, the pack stage remains Active.
   - If you selected a master pack, select Issue checkbox for the packs that you want to issue. When a master pack is selected, you can only issue the whole pack. If you issue all the packs, the master pack stage changes to Consumed after the transaction is completed. If you remove some of the packs, the master pack stage remains Active.
   - If you selected a loose serialized item unit, select the Issue checkbox for the serialized item unit that you want to issue. Because this is a serialized item unit, the Quantity to Issue is set to 1 and is not editable.
   - If you selected a pack that contains serialized items, the pack information is displayed in the parent row and the serialized item information is displayed in the child row. When the Issue checkbox in the parent row is selected, the Issue checkboxes in the child grid are selected automatically, based on the Issue Quantity field. If issuing a partial quantity of the pack, the serialized items in the child grid can be manually selected or unselected.
4. Select Submit to complete the transaction and issue the items or packs.

Using the Merge Pack Action

Follow these steps to combine the contents of two packs into one pack using the Merge Pack action:

1. In **Serials**, select a unit or assembly pack in Active stage. Then select the Merge Pack action. The Merge Pack window opens.

2. In the To Pack panel, enter the serial of the pack to which the inventory is being merged. Only packs in Active stage can be selected. The To Pack must be in the same Site and Location as the From Pack.
3. Click Submit to merge the packs.

Using the Remove Pack Action

Follow these steps to remove items from a pack or to remove a lower-level pack from a master pack:

1. In **Serials**, select the serial for the pack and then select the Remove Pack action.
2. If the pack is Aggregated, a confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack.

   Note To remove inventory from a pack, the pack must be in Active stage. When removing inventory from an Aggregated pack, the system must first remove the pack from the master pack and change the stage to Active before you can continue with the transaction.
3. The Remove Pack window opens. The serial and inventory detail information defaults into the fields.
4. The fields in the Contents grid change depending on whether you are removing non-serialized items or serialized item units and packs.
   - **Non-serialized items.** If you are removing non-serialized items from a pack, enter the Quantity to Remove. If it is a mixed pack with different non-serialized items, each item is listed in a row.
   - **Serialized items.** If you are removing serialized item units or lower-level packs from a master pack, select the Remove checkbox for the items or packs to be removed.

   Note If you remove all the items from a pack or remove all the unit packs from a master pack, the system decommissions the master pack. If you remove only some of the items or packs, the master pack remains in Active stage.
5. Select Submit to complete the transaction.

Using the Repackage Pack Action

Follow these steps to repackage the contents of an Active unit pack with non-serialized items into another pack using the Repackage Pack action:

1. In **Serials**, select a unit pack in Active stage. Then select the Repackage Pack action. The Repackage Pack window opens.
2. In the From Pack panel, enter the quantity of items to be repackaged into the To pack.
3. In the To Pack panel, enter the pack code to be used to repackage the items.

4. Optionally, enter the Address associated with the repackage transaction.
5. Enter the Standard Pack Quantity for the repackaged pack.
6. Enter the Number of Full Packs to be created from this transaction.
7. Optionally, if one of the repackaged packs is partially full, enter the Quantity in Partial Pack.
8. Click Submit to repackage the pack.

Using the Scrap Pack Action

Follow these steps to use the Scrap Pack action to scrap inventory by pack:

1. In **Serials**, select the serial for the pack and then select Scrap Pack from the Action menu.
2. If the pack is Aggregated, a confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack.

   Note To scrap inventory from a pack, the pack must be in Active stage. When scrapping inventory from an Aggregated pack, the system must first remove the pack from the master pack and change the stage to Active before you can continue with the transaction.
3. The Scrap Pack window opens.
4. The serial and inventory detail information defaults into the fields.
5. Optionally, enter information about the scrap transaction in the Main panel, such as the Effective Date, Employee, Reason Code, Order, Line, Authorization Document, Remarks, and Debit Project.
6. In the Contents grid, specify the items or packs to be scrapped by selecting the Scrap checkboxes. For unit packs and/or loose items in packs, the Scrap Quantity can be modified.
   - **Non-Serialized Items**. If you are scrapping non-serialized items from a pack, the Scrap Quantity defaults from the Quantity In Pack. You can enter a new quantity or leave it as is. If it is a mixed pack with different non-serialized items, each item is listed in a row. Make sure to select the Scrap checkbox for each item to be scrapped.
   - **Serialized Items or Packs**. If you are scrapping serialized items or packs, select the Scrap checkboxes for the serialized items or packs to be scrapped.
7. Select Submit to complete the transaction.

Using the Split Pack Action

Follow these steps to split unit or assembly packs:

1. In **Serials**, select a unit or assembly pack in Active stage. Then select the Split Pack action. The Split Pack window opens.

2. In the Contents grid, specify the inventory to be split by selecting the Remove option and then entering the Quantity to Remove.

   Note The Quantity to Remove field is editable when you split a unit pack that contains loose non-serialized items or when you split an assembly pack that contains loose non-serialized items directly on the master pack level. The Quantity to Remove field is read only when splitting lower-level packs from a master pack.

3. In the Split To panel, optionally specify if the items or packs are built into another pack:

   - **Existing packs**. To build items or packs into an existing pack, enter the To Serial and leave the To Pack Code field blank. The system uses the pack code associated with the To Serial. Upon Submit, the system builds the split inventory into the To Serial.
   - **Brand new packs**. To build items or packs into a brand-new pack, enter the To Pack Code and leave the To Serial field blank. Upon Submit, the system builds the split inventory into the newly created pack that you specified.
   - **Create loose inventory**. When splitting a unit pack, leave the To Serial and To Pack Code fields blank. Upon Submit, the items in the unit pack are removed and become loose inventory in the same Site and Location as the original unit pack.
   - **Create Active packs**. When splitting an assembly pack, which contains lower-level packs, leave the To Serial and To Pack Code fields blank. Upon Submit, the packs that are removed change from Aggregated to Active stage and they are located in the same Site and Location as the assembly pack.

4. Select Submit to complete the transaction.

Using the Receive Unplanned Pack Action

Follow these steps to receive inventory using the Receive Unplanned Pack action:

1. In **Serials**, select the Receive Unplanned Pack action. The Receive Unplanned Pack window opens.
2. In the Main panel, enter the Site, Location, and Address for the inventory being received.
3. Enter the Item, Lot/Serial, and Reference information or leave the fields blank.

   Note The item information entered in the Main panel defaults into the Contents grid when rows are added. This is helpful if you are receiving a pack with the same items, lot/serials, and reference information because that information automatically defaults into those fields when you add a row. If you are receiving a mixed pack that contains different items and/or different lot/serials, leave these

fields blank so that you can enter the specific item information in the Contents grid.

4. Accept or edit the default BOP Code or leave this field blank.

   Note When a BOP Code is entered, the Pack Code field in the Contents grid is read only. When BOP Code is blank, Pack Code is editable. This provides flexibility and allows you to receive based on a packaging structure or by a specified pack code.

5. Edit or accept the default Effective Date, which is the system date. This field must include a date.
6. Optionally, enter the Inventory Movement Code for this transaction.
7. In the Contents grid, specify the inventory to be received. To add a parent row, select New. To add a child row, select the parent row and then select Add Child. To add more child rows to a parent row, select a child row and select New.

Use Case	Steps
Receive and create a new unit pack with the same items and lot/ serials	1. Make sure that Receive Assembly Pack is *not* selected. 2. In the Contents grid, add rows as necessary. The item information (Item, Site, Location, Lot/Serial, and Reference) that you entered in the Main panel defaults into the grid when you add a row. 3. Enter or modify the Pack Code. This field is not editable if a BOP Code is entered. 4. Enter the quantity to be received in the Quantity field. **Note** When a serialized item is entered in the Item field, Generate Item Serial is automatically selected. When you select Submit to complete this transaction, the system automatically generates serials for the number of serialized items specified in the Quantity field. 5. As necessary, repeat these steps to add more packs to the Contents grid.
Receive and create a new mixed unit pack with different items and/or lot serials	1. Make sure that Receive Assembly Pack is *not* selected. 2. In the Contents grid, add rows as necessary. 3. In the parent row, enter or modify the Pack Code. This field is not editable if a BOP Code is entered. 4. In the parent and child rows, enter the Item, Lot/ Serial, Reference, and Quantity to be received. When receiving mixed unit packs, enter the different items and/or lot numbers in the child rows.

Use Case	Steps
	Note When a serialized item is entered in the Item field, Generate Item Serial is automatically selected. When you select Submit to complete this transaction, the system automatically generates serials for the number of serialized items specified in the Quantity field. 5. As necessary, repeat these steps to add more packs to the Contents grid.
Receive inventory into existing unit pack	1. Make sure that Receive Assembly Pack is *not* selected. 2. In the Contents grid, add a row. 3. Enter the serial of the existing unit pack. The pack must exist in the system and must be in New, Active, or Decommissioned stage. **Note** If you enter an existing Serial in Decommissioned stage, the system displays a message saying the serial will change to Active stage after you click Submit. 4. The item information in the pack defaults into the relevant fields. 5. Optionally, add child rows to load more items into the unit pack. 6. As necessary, repeat these steps to add more packs to the Contents grid.
Receive serialized items (Generate Item Serial = Not Selected)	1. Make sure that Receive Assembly Pack is *not* selected. 2. In the Contents grid, add rows as necessary. 3. Enter the Pack Code, Item, Lot/Serial, Reference, and Quantity information. 4. Clear Generate Item Serial. **Note** When a serialized item is entered in the Item field, Generate Item Serial is automatically selected. Make sure that this option is *not* selected. 5. Select Item Serials. **Note** When Generate Item Serial is cleared, the Item Serials option is enabled, allowing you to enter existing serialized item units. 6. In the Item Serials window, select New and enter the existing item unit serial (New stage) in the Item Serial field.

Use Case	Steps
	7. Select New and enter more item unit serials as necessary. 8. When finished, select Ok. 9. As necessary, repeat these steps to receive more packs with serialized item units.
Receive multiple unit packs (Auto Generate Packs = Selected)	1. Select Auto Generate Packs in the Main panel. When this option is selected, the Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields are displayed in the Contents panel. Based on the quantities specified in these fields, the system populates the Contents grid with the appropriate number of packs. Make sure that Receive Assembly Pack is *not* selected. 2. Enter the Number of Full Packs to receive and the Standard Pack Quantity. 3. Optionally, if you are receiving a pack that is partially full, enter the Quantity in Partial Pack. 4. Select Apply to add the packs to the Contents grid. The system adds the Number of Full Packs to the Contents grid with each pack containing the item quantity entered in the Standard Pack Quantity field. And if Quantity in Partial Pack is entered, the system adds the pack containing the partial quantity. **Note** Each time you select Apply, the Contents grid is updated to reflect the quantities entered in Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields. 5. Once the packs have been added to the Content grid, enter any additional item information (Item, Lot/Serial, Reference) in the parent and child rows.
Receive an assembly pack (Receive Assembly Pack = Selected)	1. Select Receive Assembly Pack in the Main panel. 2. Add a parent row and then enter the Pack Code for the master pack. This field is not editable if a BOP Code is entered. 3. Add child rows and enter the information about the items being received: a. Enter the Pack Code for the lower-level pack. b. Enter the Item, Lot/Serial, and Reference information. c. Enter the Quantity of items in each pack.

Use Case	Steps
	d. If receiving a mixed assembly pack, enter the different items and/or lot numbers in the child rows. 4. Repeat these steps to add more assembly packs to the Contents grid.
Receive multiple assembly packs (Auto Generate Packs = Selected) (Receive Assembly Pack = Selected)	1. Select the Auto Generate Packs option in the Main panel. When this option is selected, the Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields are displayed in the Contents panel. Based on the quantities specified in these fields, the system populates the Contents grid with the appropriate number of packs. 2. Enter the Number of Full Packs to receive and the Standard Pack Quantity. 3. Optionally, if you are receiving a pack that is partially full, enter the Quantity in Partial Pack. 4. Select Apply to add the packs to the Contents grid. The system adds the Number of Full Packs to the Contents grid with each pack containing the item quantity entered in the Standard Pack Quantity field. And if entered, the system adds the pack containing the partial quantity. **Note** Each time you select Apply, the Contents grid is updated to reflect the quantities entered in Number of Full Packs, Quantity in Partial Pack, and Standard Pack Quantity fields. 5. Once the packs have been added to the Content grid, enter any additional item information (Item, Lot/Serial, Reference) in the parent and child rows.
Receive loose serialized item units (Generate Item Serial = Yes)	1. Make sure that Receive Assembly Pack is *not* selected. 2. In the Contents grid, add rows as necessary. The item information (Item, Site, Location, Lot/Serial, and Reference) that you entered in the Main panel defaults into the grid when you add a row. 3. In the row, leave the Pack Code blank to receive loose serialized items. This field is not editable if a BOP Code is entered. 4. Enter the quantity to be received in the Quantity field. **Note** When a serialized item is entered in the Item field, Generate Item Serial is automatically selected. When you select Submit to complete this

Use Case	Steps
	transaction, the system automatically generates serials for the number of serialized items specified in the Quantity field. 5. Add more rows as necessary.
Receive and load unit packs onto an existing master pack (Receive Assembly Pack = Selected)	1. Make sure that Receive Assembly Pack is selected. 2. In the Contents grid, add a parent row. 3. Enter the Serial of the existing master pack in the parent Serial field. The pack must exist in the system and must be in New, Active, or Decommissioned stage. 4. If you enter an existing Serial in Decommissioned stage, the system displays a message saying the serial will change to Active stage after you click Submit. 5. The item and pack information defaults into the relevant fields. 6. Add child rows to load more packs onto the master pack. 7. As necessary, repeat these steps to add more master packs to the Contents grid.

8. Select Submit to complete the transaction. The system shows the serials that were created.
9. In **Serials**, you can view detailed information about the serial that was created by selecting the **View Downstream Pack** or **Serialized Inventory Report** drill-down links.

Using the Transfer Pack Action

Follow these steps to transfer packs between locations, with or without a lot/serial change:

1. In **Serials**, select the serial for the unit pack or assembly pack and then select the Transfer Pack action.

   Note You can only select packs in Active, Picked, or Aggregated stage.

2. The Transfer Pack window opens. If you selected a pack that is Aggregated, a Confirmation message prompts you to remove the pack from the master pack. Select Continue to remove the pack.
3. In the Main panel, enter the Effective Date for this transaction. The default is the system date.
4. Optionally, enter any related Order, Sales/Job, and Remarks information.
5. In the Transfer panel, enter the target destination for the pack by entering the To Site and To Location.

6. If a lot/serial or reference change is required, enter the new information in the To Lot/Serial and To Reference fields.

   Note You can only change the lot/serial and reference information if the pack that is being transferred is homogenous and contains the same items, lot/serials, and reference information. If the pack is mixed, these fields are not editable.

7. Select Submit to transfer the pack, with or without a lot/serial change.

   If the inventory status for the From location is different than the inventory status for the destination location, when you select Submit, the system displays a message indicating that the inventory statuses are different. You are prompted to select either the From or To inventory status:

   - If you select To, the system uses the inventory status code of the Transfer To location and then completes the transfer.
   - If you select From, the system checks whether there is inventory in the Transfer To location before completing the transfer.
     - If Quantity on Hand is not zero, the system prompts you to reenter the Transfer To site/location.
     - If Quantity on Hand is zero, which results from negative loose inventory plus the quantity in pack of serialized packs or items, the system prompts you to reenter the Transfer To site/location.
     - If Quantity on Hand is zero, and there is no physical inventory in the destination, the system displays the message indicating that the inventory statuses are different and prompts you to select the To inventory status.

Using the Bulk Transfer Pack Action

Follow these steps to use the Bulk Transfer Pack action to transfer multiple packs at one time:

1. In **Serials**, use the Search and filter for a range of serials you want to transfer. When filtering for serials:

   If you are transferring mixed packs, which contain different items, lot/serials, reference information, and/or UMs, you should search by the Serial field. If you filter by a specific Item, Lot/Serial, Reference, and/or UM, then any mixed packs with multiple items, lot/serials, reference information, and/or UMs will not be included in the search results.

   If you are filtering by serial, it is recommended that you search by the Serial field and not the Master Serial field. When searching by Master Serial, the system is much slower when filtering the results.

2. Select the Bulk Transfer Pack from the Action menu. The Bulk Transfer Pack window opens.

3. In the Options panel, enter the From Site, From Location, To Site, To Location, the Effective Date, and Remarks information.
4. Select the Transfer Different Status if the packs can be transferred into a site and location that has a different inventory status than the current one.
5. Select Search to populate the Transfer grid with a list of serials based on the Search Criteria and the settings in the Options panel.
6. In the Transfer grid, select the serials you want to transfer by selecting the checkboxes.
7. Select Submit to transfer the packs.

Serial Ranges

You can set up a range of serials by site, address, item number, or pack code. You can also leave the Site, Address, Item, and Pack Code fields blank and then enter the serial range.

Make sure that the dataset of the serial range that you enter is serial_id.

For instructions on creating a serial range, see Creating a Serial Range on page 3059.

In the Serial Extensions panel, you can:

- Import serials from external sources. For instructions, see Importing Serials on page 3063.
- Export serials as Excel (.xlsx), Comma-separated (.csv), Tab-separated (.tsv), Tab-delimited (.txt), or PDF Document (.pdf) file types. For instructions, see Exporting Serials on page 3062.
- Delete a batch of unused serials. For instructions, see Deleting Serials on page 3061.
- Customize a serial range to include a custom segment in the **Number Ranges** record to satisfy specific logistics requirements.

You can remove imported serials as long as they have not been used. Also, you can delete the serial range, as long as no serials in the list have been used and the range itself has not been used in **Serial Ranges**. When you delete an unused serial range, the system removes all serials in the range.

For functions that generate or validate serials, the system operates as follows:

- When a new serial is needed, leave the field blank when capturing the serial value. The system first checks whether the number range has been defined as internal or external.
    - If the serial is defined as internal, the system automatically creates a number according to the number range definition.

      Note If the number range is defined as internal, you can define a custom-developed logic to determine the next serial to be generated.
    - If the serial is defined as external, the system determines whether there have been numbers generated from the imported numbers using the serial range extensions. In this scenario, the system checks the serial ranges and then regular numbers in NRM. If an effective matching is found, the system gets the next unused serial and marks it as used.
- When a specific serial is entered while using the Create Pack, Build Pack, or Receive Pack transactions, the system validates based on the following rules:

- If the number range is defined as internal, you cannot auto-generate a number and the system displays an error message.
- If the number range is defined as external, the system determines if there are numbers defined in the **Number Ranges**. In this scenario, the only valid numbers you can choose are the unused numbers defined in **Serial Ranges**. If there are no numbers defined in **Serial Ranges**, you can enter any value, as long as it is a unique value.

When a serial is required for a specific serial range, the system first determines whether the serial range is defined in **Serial Ranges**.

- If not, the system generates the serial according to the type values defined in **Number Ranges**.
- If so and the serial range is external, the system uses an imported serial.
- If so and the serial range is internal, the system generates a value according to the definition in **Number Ranges** first. Then the system calls the custom program to create a custom value. Finally, the system concatenates the **Number Ranges** value and the custom value as the serial.

Main

Site

Enter the site where inventory is manufactured or stored.

Address

Enter a valid supplier for purchased materials, a valid site address for distribution orders, or a valid customer ship-to or sold-to for goods sold.

Item/BOM

Enter the item number associated with the serial range. It can also be a BOM code.

Pack Code

Enter the pack code associated with the pack sequence. When blank, the system can use the sequence for any pack code, regardless of whether it is for an item serial or a pack code. When both item/BOM and pack code are blank, you can use the serial range for any pack or any item.

Serial Range

Enter a valid sequence ID that the system uses when it creates this serial range. Make sure that you predefine the sequence ID in **Number Ranges** with the serial_id. The system looks for a matching serial range in the following order:

1. Pack code, item/BOM code, address, site

2. Pack code, address, site
3. Pack code, item/BOM code, site
4. Pack code, site
5. Pack code, item/BOM code, address
6. Pack code, item/BOM code
7. Pack code, address
8. Pack code
9. Item/BOM code, address, site
10. Item/BOM code, site
11. Item/BOM code, address
12. Item/BOM code
13. Address, site
14. Address
15. Site
16. All fields are blank

Internal

Indicates whether the serial range, as set up in **Number Ranges**, is internal or external. If Internal is selected, the system generates sequence numbers automatically. If Internal is not selected, you must provide numbers that are validated against the **Number Ranges** sequence.

Number of Serials

For external serial ranges, this field displays the total number of serials that are assigned to the serial range.

This field is hidden when the serial range is internal.

Unused Serials

For external serial ranges, this field displays the total number of serials that have not been used in the serial range.

This field is hidden when the serial range is internal.

Origin Code

Enter a code—provided by the supplier—that is uniquely related to the site, supplier, item, and pack code combination. The external serial and the origin code can serve as an extension for the serial master, which allows cross-linking to a single internal serial.

Inbound Serial Rule

For the inbound receipt of goods, enter one of the following values to determine whether the system supports external-to-internal serial mapping. Using two serials that are linked prevents the possibility of having duplicate system serials.

- **0 (default)**. The system uses a single serial, which is either the serial generated internally by the system or an imported serial from another system or one that was manually added using **Serial Ranges**.
- **1**. The system supports external-to-internal serial mapping; numbers are linked to prevent the possibility of having duplicate system serials. The system creates the internal serial by combining the external serial and the origin code. When 1 is entered, the system prefixes the origin code to the externally supplied serial. For example, if the origin code is ABCD and the external serial is 12345678, the internal serial is ABCD12345678. In this case, the serial range must be external. The resulting serial (ABCD12345678) must satisfy all the same rules for uniqueness as an internal serial number.
- **2**. The system supports external-to-internal serial mapping; numbers are linked to prevent the possibility of having duplicate system serials. The system creates the internal serial by combining the external serial and the origin code. When 2 is entered, the system uses the origin code as a suffix onto the end of the externally supplied serial. For example, if the origin code is ABCD and the external serial is 12345678, the internal serial is 12345678ABCD. In this case, the serial range must be external. The resulting serial (12345678ABCD) must satisfy all the same rules for uniqueness as an internal serial number.
- **3**. The system supports two serials (a dual identifier), which are linked to prevent the possibility of having duplicate system serials. When 3 is entered, the system uses the serial code defined in **Serial Ranges** to generate an internal number for the system serial. The generated serial uses the **Number Ranges** mechanism, which can be an internal range or an external range.

Outbound Serial Rule

For the outbound shipment of goods, determine whether the system generates a customer-specific external serial. The system first generates a system serial based on the settings defined in **Serial Ranges**. Then, the system generates a customer-specific external serial based on the Starting Character and Maximum Length field settings. These numbers are linked, preventing the possibility of having any duplicate serials caused by customer specifications.

- **0 (default)**. The system does not generate an external serial. The External Serial field remains blank.
- **1**. The system generates a customer-specific external serial based on the Starting Character and Maximum Length field settings. For example, if the internal serial is ABCD12345678, the Starting Character is 4 (4th position), and the maximum Length of the serial is 6, then the external serial becomes D12345.

Starting Character

When the Outbound Serial Rule is set to 1, enter the starting position of the character for the internal serial, which becomes the external serial. For example, if the internal serial is ABCD12345678, the Starting Character is 4 (4th position), and the maximum Length of the serial is 6, then the external serial becomes D12345.

Length

When Outbound Serial Rule is set to 1, enter the maximum length of the internal serial that will become the external serial. For example, if the internal serial is ABCD12345678, the Starting Character is 4 (4th position), and the maximum Length of the serial is 6, then the external serial becomes D12345.

Serial Extensions

The fields displayed in this panel change depending on whether an external or internal serial range is entered in the Main panel.

- When the serial range is internal, this panel displays the Custom Program field, which allows you to customize a serial range to include a custom segment in the **Number Ranges** record to satisfy specific logistics requirements.
- When the serial range is external, this panel includes a grid that allows you to enter or import serials from external sources.

Custom Program

Enter the custom program.

This field is displayed when the serial range is internal.

Serial

Enter the serial that you want to assign to the serial range. If you enter a serial that has already been used, an error is displayed.

This field is displayed in a grid when the serial range is external.

Used

Indicates if the serial has been used or not. When a serial has been used, it cannot be deleted.

This field is displayed in a grid when the serial range is external.

Serial Ranges Export Window

Search Criteria

Criteria

Displays the filter criteria for serials in the Serial Range Extension details screen. When there is no filter, this field displays "No criteria selected."

Records Returned

Displays the number of serials that will be exported.

File Properties

File Name

Optionally, enter a name for the exported Excel file. If blank, the system names the file "default_xxxxxxx_mfg".

Type

Select the type of file you are exporting:

- Export With Browse Columns.
- Export With Import Format. Select this option to export an Excel file that is properly formatted for importing. The Excel file that is created will be formatted for this specific serial range.

Include in Export

This field, which is displayed when Type is set to Export With Browse Columns, is read only and set to Current Stored Viewed Columns.

Format For Record Delete

Select this option to create an Excel file that is properly formatted to delete unused serials. The Excel file that is created is formatted for this specific serial range and contains a column where users can specify which serials should be deleted.

This field is displayed when Type is set to Export With Import Format.

File Type

Displays the file type that is exported:

- When Type is set to Export With Import Format, the file type is set to Excel (.xlsx) and cannot be modified.
- When Type is set to Export With Browse Columns, the file type can be set to Excel (.xlsx), Comma-separated (.csv), Tab-separated (.tsv), Tab-delimited (.txt), or PDF Document (.pdf).

Fields

Use this panel to select whether the Excel file that is exported contains the Used column, which indicates the serials that have been used or not used. Select Used to export the Excel file with a Used column. This panel is displayed when Type is set to Export With Import Format.

Creating a Serial Range

Follow these steps to create a serial range:

1. In **Serial Ranges**, select New. A blank serial range form opens.
2. In the Serial Range field, enter a valid sequence ID that the system uses when it creates this serial range.

Note The sequence ID that is entered must be predefined in **Number Ranges** with the Target Dataset set to serial_id.

3. When the sequence ID is entered, the Internal check box automatically indicates whether the serial range, as set up in **Number Ranges**, is internal or external.
4. Enter the Inbound Serial Rule to determine whether the system supports external-to-internal serial mapping for the inbound receipt of goods. For a detailed description of each setting, see the field definition.
5. Enter the Outbound Serial Rule to determine whether the system generates a customer-specific external serial for the outbound shipment of goods. For a detailed description of each setting, see the field definition.

   Note When Outbound Serial Rule is set to 1:

   1. In the Starting Character field, enter the starting character of the internal serial that becomes the external serial.
   2. In the Length field, enter the maximum length of the internal serial that becomes the external serial.
6. Specify how the serial range is used by entering a Site, Address, Item Number, and/or Pack Code. For example, if the serial range is to be used for a specific item at a specific site, you would enter the Site and Item Number and leave the Address and Pack Code fields blank.

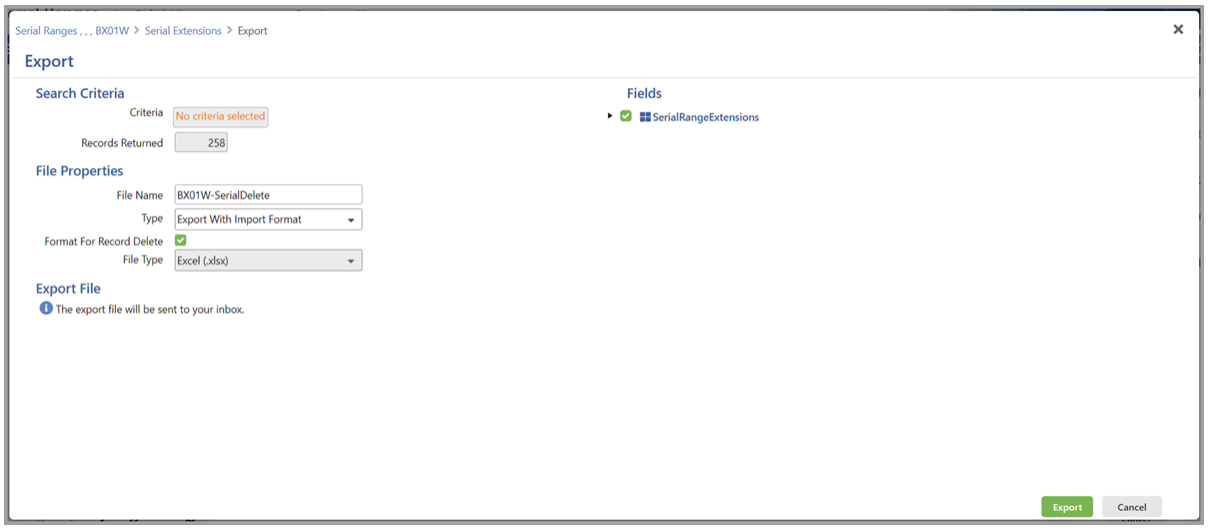
   Note If necessary, you can leave all these fields blank to create a generic serial range that applies to the entire domain.
7. Optionally, if you are creating a serial range that is uniquely related to a Site, Supplier, Item, and Pack Code combination, enter an Origin Code, which is provided by the supplier. The external serial and the origin code can serve as an extension for the serial master, which allows cross-linking to a single internal serial.
8. Depending on whether the serial range is internal or external, enter the necessary information in the Serial Extensions panel.
   - When the Serial Range is internal, this panel displays the Custom Program field. Optionally, enter the customized program if the serial range is to include a custom segment in the **Number Ranges** record to satisfy specific logistics requirements.
   - When the Serial Range is external, this panel includes a grid that allows you to enter or import serials from external sources. To manually enter serials, select New and enter the unique serial in the grid. To import a list of serials, see Importing Serials on page 3063.
9. Select Save to save the serial range.

Deleting Serials

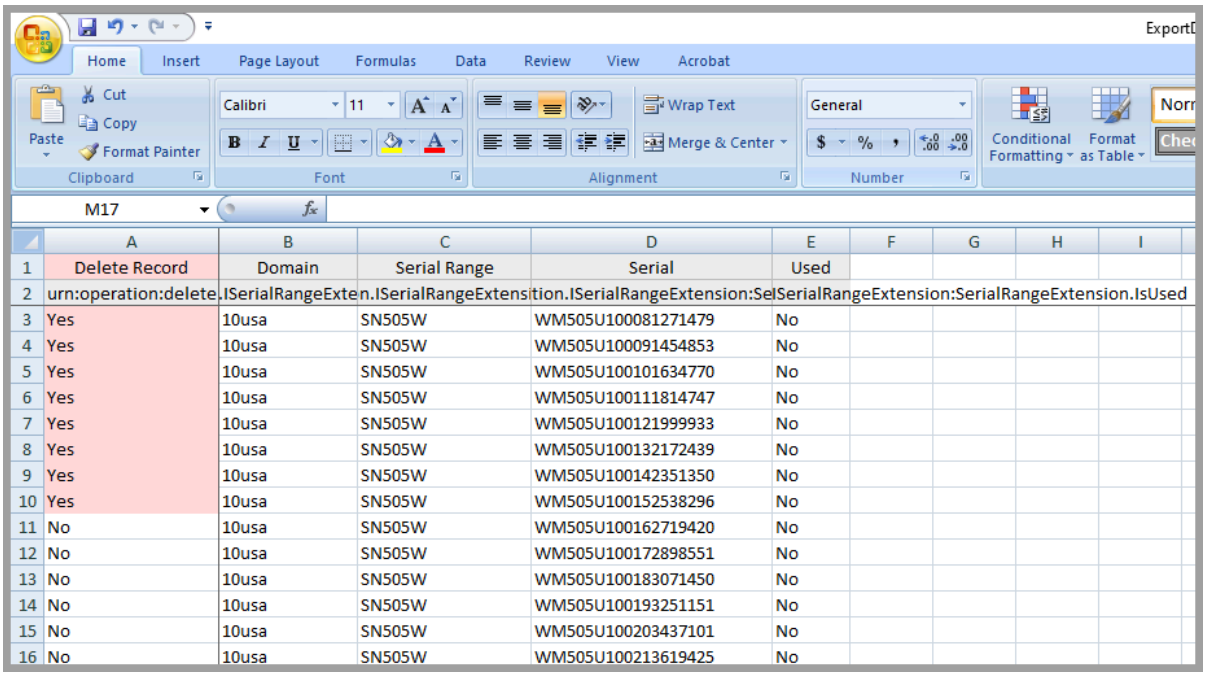
To delete a batch of unused serials in a serial range, you must first create an Excel file (.xlsx) that is properly formatted for deleting unused serials.

Follow these steps to create an Excel (.xlsx) file that is properly formatted for deleting unused serials:

1. In **Serial Ranges**, select the serial range that contains the serials to be deleted.
2. In the Serial Extensions panel, select Details. The Serial Range Extensions window opens.
3. From the More drop-down menu, select Export.
4. Enter the File Name for the exported file.
5. In the Type field, select Export With Import Format.
6. Select the Format For Record Delete option.



7. Select Export to create an Excel file that is properly formatted for deleting unused serials.
8. The exported Excel file contains a Delete Record column, which allows you to identify the serials to be deleted. Enter Yes to specify which serials will be deleted; enter No to specify which serials will not be deleted.



	A	B	C	D	E	F	G	H	I
1	Delete Record	Domain	Serial Range	Serial	Used				
2	urn:operation:delete	.ISerialRangeExten	n.ISerialRangeExtensi	tion.ISerialRangeExtension:Se	SerialRangeExtension:SerialRangeExtension.IsUsed				
3	Yes	10usa	SN505W	WM505U100081271479	No				
4	Yes	10usa	SN505W	WM505U100091454853	No				
5	Yes	10usa	SN505W	WM505U100101634770	No				
6	Yes	10usa	SN505W	WM505U100111814747	No				
7	Yes	10usa	SN505W	WM505U100121999933	No				
8	Yes	10usa	SN505W	WM505U100132172439	No				
9	Yes	10usa	SN505W	WM505U100142351350	No				
10	Yes	10usa	SN505W	WM505U100152538296	No				
11	No	10usa	SN505W	WM505U100162719420	No				
12	No	10usa	SN505W	WM505U100172898551	No				
13	No	10usa	SN505W	WM505U100183071450	No				
14	No	10usa	SN505W	WM505U100193251151	No				
15	No	10usa	SN505W	WM505U100203437101	No				
16	No	10usa	SN505W	WM505U100213619425	No				

After specifying the serials to be deleted, follow these steps to import an Excel file that contains a list of serials to be deleted:

9. In **Serial Ranges**, select the serial range that contains the serials to be deleted.
10. In the Serial Extensions panel, select Details. The Serial Range Extensions window opens.
11. From the More drop-down menu, select Import.
12. In the Import window, select Choose File and then select the .xlsx file that contains the list of serials to be deleted. The Import window displays the first 10 lines of serials in the file.
13. Select Import to delete the serials from the serial range.

Exporting Serials

Follow these steps to export a list of serials in a serial range:

1. In the **Serial Ranges** > Serial Extensions panel, select Details. The Serial Range Extensions window opens.
2. From the More drop-down menu, select Export.
3. Enter the File Name for the exported file.
4. In the Type field, select Export With Browse Columns.
5. In the File Type field, select the file type that will be exported: Excel (.xlsx), Comma-separated (.csv), Tab-separated (.tsv), Tab-delimited (.txt), or PDF Document (.pdf).
6. Select Export to export the list of serials.

Importing Serials

To import serials to a serial range from an Excel (.xlsx) file, the .xlsx file must be formatted correctly for that specific serial range. Once you have added the serials to the properly formatted Excel file, you can import the serials to the serial range.

Follow these steps to create an Excel (.xlsx) file that is properly formatted for import:

1. In **Serial Ranges**, select the serial range that you want to import serials to.
2. In the Serial Extensions panel, select Details. The Serial Range Extensions window opens.
3. From the More drop down menu, select Export.
4. Enter the File Name for the exported file.
5. In the Type field, select Export With Import Format.
6. Make sure that the Format For Record Delete checkbox is *not* selected.
7. Select Export to create an Excel file that is properly formatted for this serial range.
8. Once the export file has been created, add the list of serials to the properly formatted Excel file.

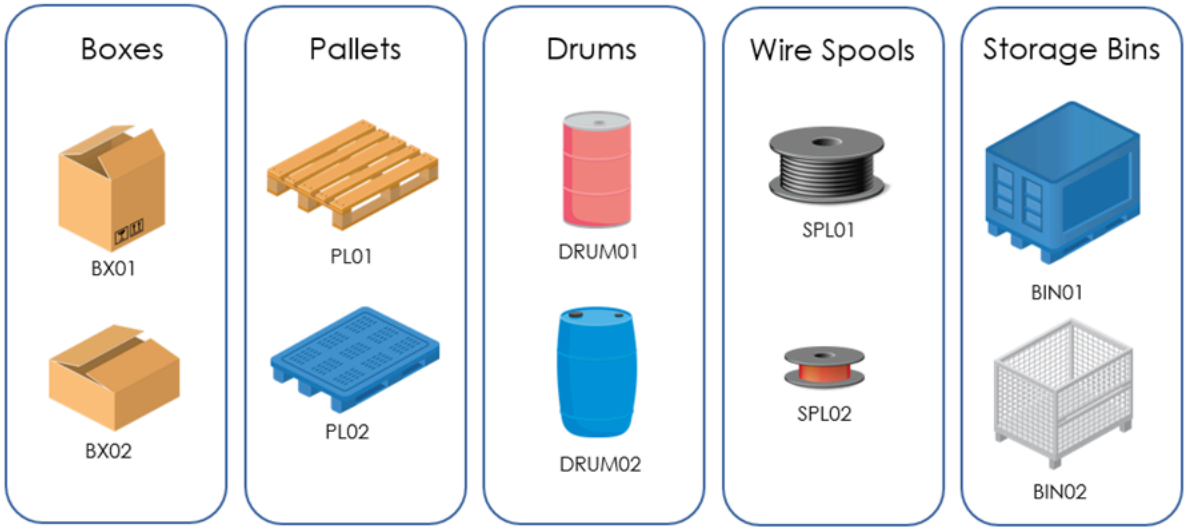
Follow these steps to import a list of serials from an Excel (.xlsx) file:

9. In **Serial Ranges**, select the serial range that you want to import serials to.
10. In the Serial Extensions panel, select Details. The Serial Range Extensions window opens.
11. From the More drop-down menu, select Import.
12. In the Import window, select Choose File and then select the .xlsx file with the serials to be imported. The Import window displays the first ten lines of serials to be imported.
13. Select Import to import the serials.

In the Serial Extensions panel, the imported serials are added to the grid.

Pack Codes

Pack codes help define the way items and inventory are stored to facilitate warehouse and logistics activities. You can create pack codes from the lowest-level pack up to the top-level pack, such as a small box, a large carton, a pallet, and shipping container.



When using **Pack Codes**, you can:

- Specify if the pack is serialized or not
- Specify the unit of measure of the pack. For example, if the pack is a box, the UM could be Each or if the pack is a Drum, the UM could be Liters.
- Determine if this can be a mixed pack, which contains different items and/or item lots, or if the pack should always contain the same items and/or item lots.
- Specify if it is a specialized pack that must contain a specific item and if so, which item it must contain.

For instructions on how to create a pack code, see Creating a Pack Code on page 3066.

Main

Pack Code

Enter a pack code for the type of packaging. For example, if it is for a box, you can enter BX01; if it is for a pallet, you can enter PL01.

Description

Optionally, enter a description of the pack code.

Serial Control

Define whether this pack must be serialized.

- **Mandatory.** Select Mandatory if this pack is required to have a serial. The default is Mandatory.
- **Never.** Select Never if this pack is not serialized. If set to Never, you can override this setting in **Packaging Structure** so that the pack code can be serialized when used by a particular BOP.

UM

Enter the unit of measure of the pack. The pack unit of measure is used for inventory balances, product structures, manufacturing orders, planning, and reporting. When the pack code is saved and a serial is created for the pack code, you cannot change the UM.

The values displayed in the UM lookup are defined in **Generalized Codes**. When setting up the values for the UM field, set the **Generalized Codes** > Field Name to "pckc_um".

Single Item

Specify if the pack can hold different items.

- **Selected.** The pack can only hold a single item. By default this option is selected.
- **Not Selected.** The pack can hold different items.

Single Lot

Specify if the pack can hold different item lots.

- **Selected.** The pack can only hold a single item lot. By default this option is selected.
- **Not Selected.** The pack can hold items from different lots. For any pack, if this option does not have an impact on packaging transactions.

Inventory Item

Specify if you want the pack to be associated with a specific inventory item.

- **Selected.** The pack can only hold a specific item. Specify that item in the Item/BOM Code field. When the pack contains a specific inventory item, the system defaults the tare weight and UM and volume and UM.
- **Not Selected.** The pack can hold different items. By default, this option is not selected.

Item/BOM Code

Enter the item to be stored in the pack. Specify a BOM code if multiple items are consumed when the pack is used.

When the Inventory Item option is selected, system uses the value in this field to consume the pack item. If this field is blank and the Inventory Item option is selected, it means that the item is the same as the pack code.

Tare Weight/UM

Enter the tare weight and unit of measure of the packaging container. If this pack is an inventory item, this value defaults from the item ship weight.

The values displayed in the Tare Weight UM lookup are defined in **Generalized Codes**. When setting up the UM values for the Tare Weight field, set the **Generalized Codes** > Field Name to "pckc_ship_wt_um".

Volume/UM

Enter the volume and unit of measure of the packaging container. If this pack is an inventory item, this value defaults from the item volume.

The values displayed in the Volume Weight UM lookup are defined in **Generalized Codes**. When setting up the UM values for the Volume field, set the **Generalized Codes** > Field Name to "pckc_size_um".

Creating a Pack Code

Follow these steps to create a new pack code:

1. In **Pack Codes**, select New and then enter the Pack Code and an optional Description. In some reports, only the description appears for the pack code and not the pack code itself.
2. Specify if the pack is serialized by setting the Serial Control field to Mandatory (Serialized) or Never (Not serialized).
3. Enter the pack unit of measure. Once the pack code is saved and a serial is created for the pack code, you cannot change the UM.
4. Specify if the pack can be a mixed pack by setting the Single Item and Single Lot fields. These fields determine if the pack can contain a mix of different items and/or lots.
5. Specify if the pack must contain a specific inventory item by setting the Inventory Item field. If this option is selected, enter the item to be stored in the pack in the Item/BOM Code field.

   Note When the pack contains a specific inventory item, the system defaults the tare weight and UM and volume and UM.
6. Enter the Tare Weight/UM and Volume/UM for the pack.
7. Select Save to create the pack code.

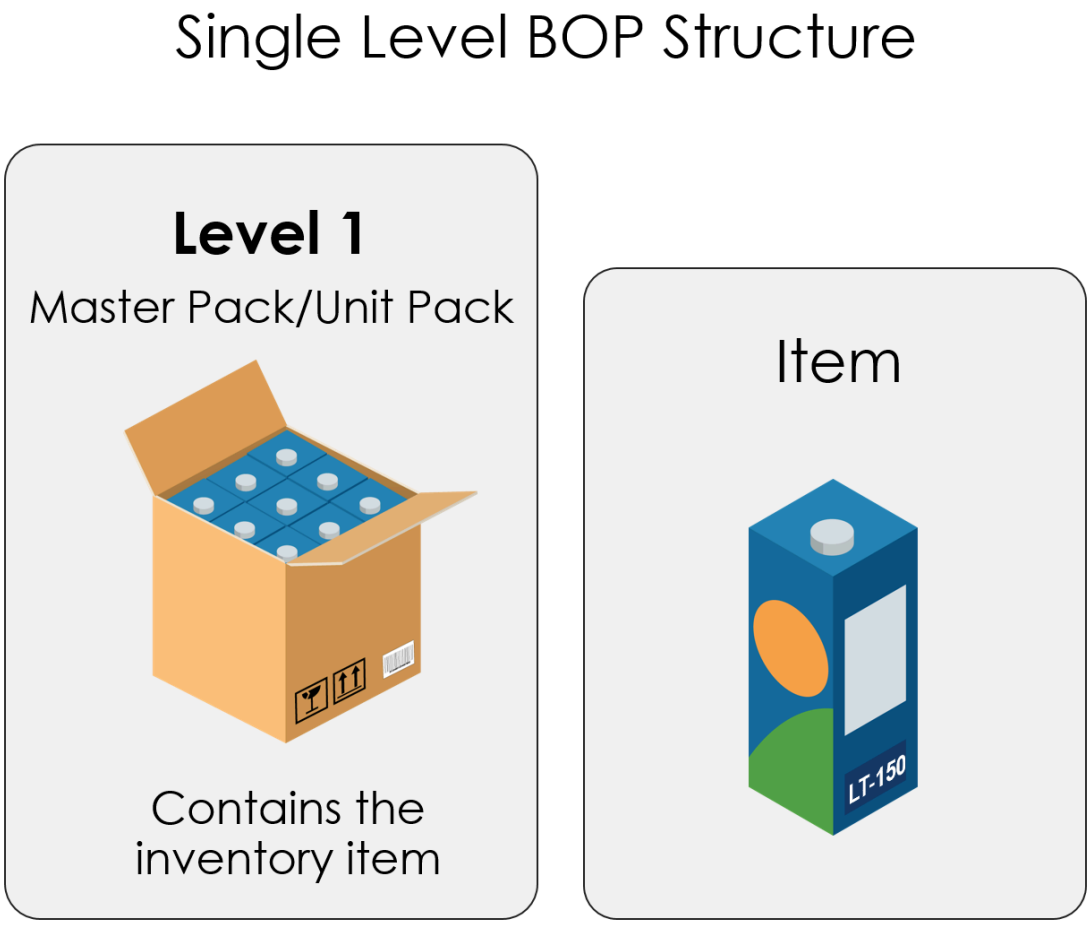
Packaging Structures

The BOP structure defines the way items are packaged and stored after inbound and production receipts as single-level or multi-level packaging structures.

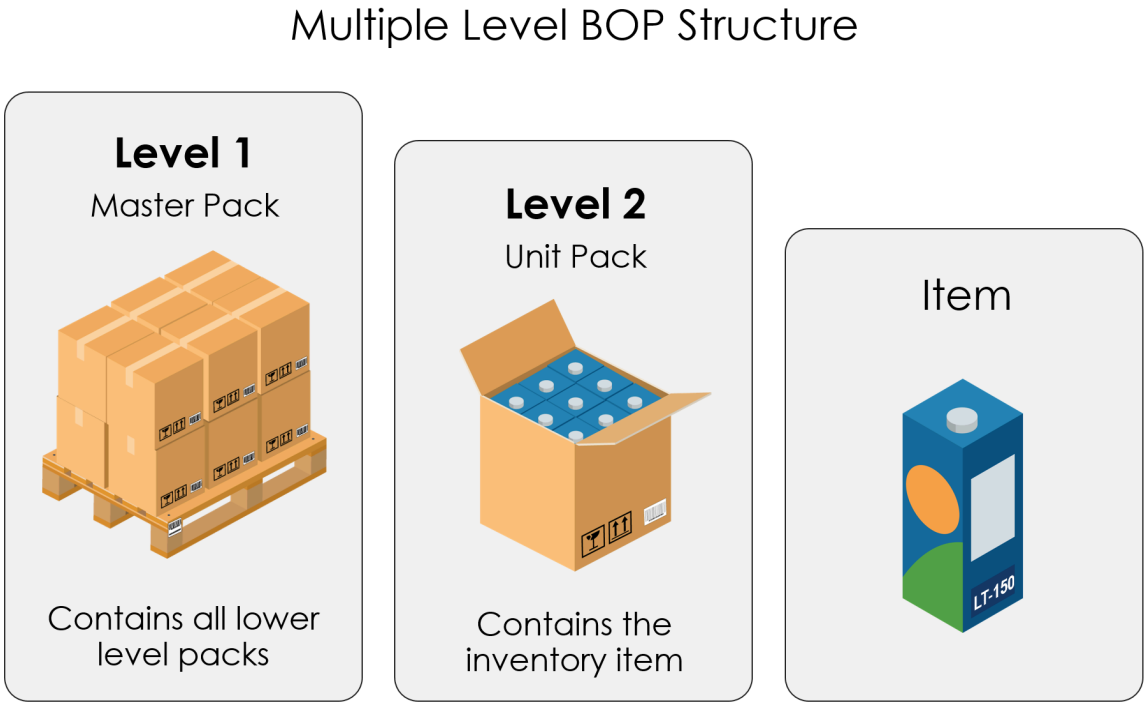
In a BOP structure, the lowest-level pack is the unit pack, which is the pack that contains the inventory item. The highest-level pack is the master pack.

When creating a BOP structure, specify the contents at each level. At the lowest level of the BOP structure, specify the pack code and the item and item quantities that are stored in the pack. If the item is not specified, the BOP structure can be used for any item. For the higher levels in the pack structure, specify the pack codes used at that level along with the pack quantities.

When the BOP structure is a single-level structure, the master pack is the unit pack and it contains the inventory item. The following graphic shows an example of a single-level BOP structure where cartons of juice are stored in a shipping box.



When the BOP structure has multiple pack levels, the master pack contains all lower-level packs. The lowest-level pack in the multi-level BOP structure contains the item. The following graphic shows an example of a multi-level BOP structure where cartons of juice are stored in a box that is then placed on a pallet for storage and shipment. In this example, the box is the unit pack and the pallet is the master pack.



Note Currently, the Import function, which allows users to import packaging structures from an Excel spreadsheet, is not available in **Packaging Structures**.

Creating a Packaging Structure

For instructions on how to create a packaging structure, see Creating a Packaging Structure on page 3072.

Editing a Packaging Structure

After a BOP structure is saved, only the Description and Margin can be modified in the Main panel. The BOP and Start Effective fields cannot be modified.

In the Structures grid, the user can select a row in the grid, and update the Content, Quantity Per, Serial Control and/or Stacking Level.

When adding new rows to an existing BOP structure, the new rows should be added under the existing rows. Level 1 should always be the top row in the grid. If the Levels are modified or are added out of order, the grid will be reordered upon saving.

Deleting a Packaging Structure

To delete a BOP structure, select the BOP structure from the Packaging Structures browse, click Edit to view the pack structure in Form view, and then click Delete.

You cannot delete a BOP structure that is assigned to an Item/BOM in **Item Packaging Assignments** and that is currently effective (based on the Start Effective date).

Note If the Start Effective date is blank, the BOP Structure is considered effective.

Deleting a Level in a Packaging Structure

To delete a level in a BOP structure, select the level in the Structures panel and then click Delete.

You cannot delete a middle level in multi-level BOP structure. If the BOP structure is a multi-level structure and you try to delete the middle level, the following error is displayed upon saving: "Packaging structure is invalid."

If there is a multi-level BOP structure and you delete the top level, all the lower levels automatically update. For example, if the BOP structure has 2 levels and the user deletes Level 1, then Level 2 automatically becomes Level 1.

Main

BOP

Enter a unique name of the BOP structure. For example, if the BOP structure is for a specific item, you could enter the item number as the BOP name.

Description

Optionally, enter the description of the BOP structure.

Start Effective

Enter the first day the packaging structure is effective. A packaging structure is effective over a defined period of time. Use effective dates to phase in packaging structure changes. Blanks are allowed.

Margin

Enter the margin percentage of additional serials that are allocated if you require additional quantities to cover any eventual scrap of numbers or have a greater range of numbers to select from for randomized serial assignments.

Structures

Level

The packing level in the BOP structure. The Level is automatically generated and cannot be modified. When the first new row is added, the Level defaults to 1, which is the highest level in the pack structure. When another Level is added, the Level field defaults to the next consecutive number. The Level must be unique.

Pack Code

Enter the pack code for this level in the BOP structure. For example, the pack code can be the unit pack that contains the inventory item or an assembly pack that contains other packs.

Pack Code Description

Displays a description of the pack code.

Content

Specify the contents for this level in the BOP structure. This can be an inventory item or a pack code.

For example, in the lowest level (unit pack) of a multi-level BOP structure, you would enter the item number that is stored in the unit pack. For the highest level (master pack), you would enter the pack code that the master pack contains.

If this is the lowest level in the BOP structure, you can leave the Contents field blank and create a generic BOP structure that can be used for any item.

Quantity Per

Enter the quantity of items or packs for this level in the BOP structure.

For example, in the lowest level (unit pack) of a multi-level BOP structure, you would enter item quantity that is stored in the unit pack. For the highest level (master pack), you would enter the pack quantity for this level.

UM

Displays the unit of measure of the item or pack for this level in the BOP structure. This field is read only.

The pack unit of measure is used for inventory balances, product structures, manufacturing orders, planning, and reporting. Values can be defined with generalized codes.

When the pack code is saved and a serial is created for the pack code, you cannot change the UM.

Serial Control

Specify if this level in the BOP structure requires serialization. At least one level of the BOP structure must be set to Mandatory.

- **Mandatory**. The serial is mandatory for the pack.
- **Never**. The serial is not required when this pack code is used.

The value for this field defaults from **Pack Codes**.

Stacking Level

Specify how many packs can be stacked on top of each other at this level. This field is for reference only.

- (**1**). Enter 1 if packs cannot be stacked on top of each other.
- (**2+**). Enter 2 or more if you can stack multiple levels of packs on top of each other at this level.

By default, this field is set to 1. Negative values are not allowed.

Creating a Packaging Structure

Follow these steps to create a new packaging structure:

1. In **Packaging Structures**, select New.
2. In the Main panel, enter a unique BOP name in the BOP field. Optionally, enter a short description.
3. Optionally, specify the Start Effective and Margin values.
4. In the Structures panel, specify the contents for each level in the BOP structure. Each row in the Structures grid represents a level in the BOP structure.

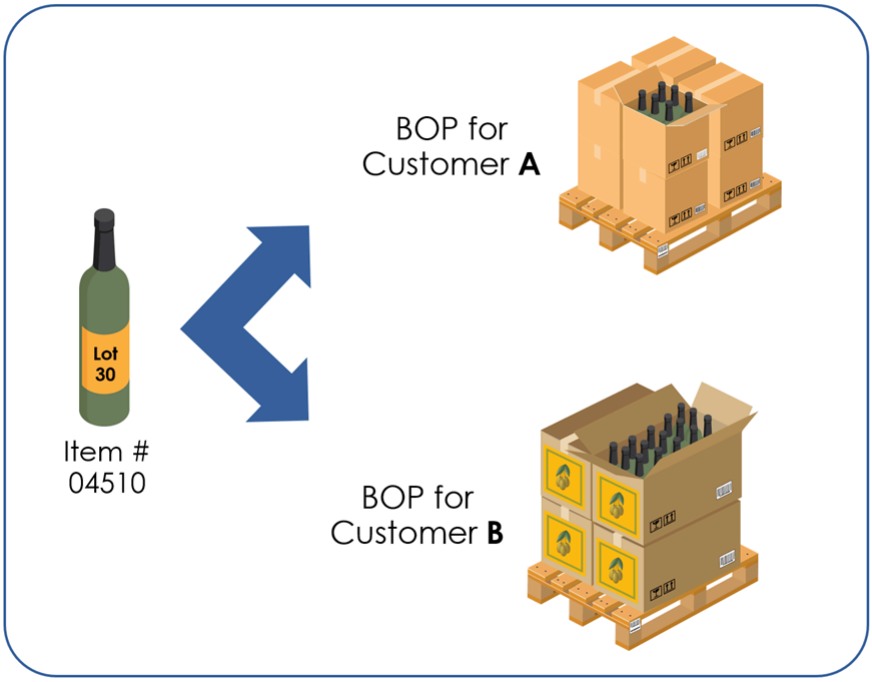
BOP Structure	Steps
Single Level	1. Click New to add the first level of the BOP structure. The Level field defaults to 1. 2. In the first row (Level 1), enter the Pack Code. 3. In the Content and Quantity Per fields, enter the item and item quantity stored in the pack. If the Content field is blank, this BOP structure can be used for any item. 4. Verify that the Serial Control option is selected. This setting, which defaults from Pack Codes, determines if this level of the BOP structure requires serialization. At least one level of the BOP structure must be set to Mandatory. 5. Optionally, enter the Stacking Level to specify how many packs can be stacked on top of it. This field is for reference only. 6. Click Done to save the information entered in the row/level. 7. Click Save to save the BOP structure.

BOP Structure	Steps
Multi-Level	1. Click New to add the first level of the BOP structure. The Level field defaults to 1. 2. In the first row (Level 1), enter the Pack Code for the highest level of the BOP structure. For example, if the BOP structure is two levels consisting of a pallet with boxes, you would enter the pack code of the pallet in this field. 3. In the Content and Quantity Per fields, specify the contents of the highest level. For example, if the BOP structure is two levels consisting of a pallet with boxes, you would enter the pack code of the boxes in the Content field and the quantity of boxes stored on the pallet in the Quantity Per field. 4. In the Serial Control field, specify if this level of the BOP structure requires serialization. This setting defaults from Pack Codes. At least one level of the BOP structure must be set to Mandatory. 5. Optionally, enter the Stacking Level to specify how many packs can be stacked on top of it. This field is for reference only. 6. Select New Line and enter the information for the next level in the BOP structure. 7. In the second row (Level 2), enter the Pack Code for the next level in the BOP structure. For example, if the BOP structure is two levels consisting of a pallet with boxes, you would enter the pack code of the box in this field. 8. In the Content and Quantity Per fields, specify the contents of the second level. For example, if the BOP structure is two levels consisting of a pallet with boxes, you would enter the item and item quantity stored in the pack or you can leave the item field blank. If the item is not specified, this

BOP Structure	Steps
	BOP structure can be used for any item. 9. In the Serial Control field, specify if this level of the BOP structure requires serialization. This setting defaults from Pack Codes. At least one level of the BOP structure must be set to Mandatory. 10. Optionally, enter the Stacking Level to specify how many packs can be stacked on top of it. This field is for reference only. 11. If you need to add more rows/levels to the BOP structure, select New Line and the enter the information for the next level by repeating the steps above. 12. If you do not need to add another level, click Done to save the information entered in the row/level. 13. Click Save to save the BOP structure.

Item Packaging Assignments

The combination of domain/item/site/address/transaction type determines the BOP to use. For example, if you have different customers that require different packaging for the same item, you can use **Item Packaging Assignments** to specify which BOP to use for each customer.



When setting up the BOP structure using Packaging Structures, you specify which item is linked to the packaging hierarchy when you specify the item being stored in the lowest-level (unit) pack. In **Item Packaging Assignments**, you specify which default BOP structure the system uses with receipts. If packaging rules differ by site, ordering, receiving, or shipping address, depending on the transaction type, **Item Packaging Assignments** lets you specify the site, the address, or a transaction type.

For transaction types, an address/partner can be either a supplier (purchased materials), a customer (goods sold), or a site (distribution orders). Receipt transaction types are typically unplanned receipts, purchase receipts, or production order receipts.

You can leave Site, Address, and Transaction Type blank to define a common BOP for any site, any partner, and any transaction type.

When you require alternate BOP structures for a specific combination, you define the BOP structure in Packaging Structures and then manually select the right BOP structure during the serialization transaction. For example, you might pick an alternate packaging structure because a shipment of goods, which is typically packaged for sea transport, is being expedited and shipped by air and needs to be packaged differently.

For instructions to link a BOP to an item/site/address/transaction type combination, see Linking a BOP to an Item/Site/Address/Transaction Type on page 3077.

Main

Item/BOM

Enter the item or BOM to associate with the BOP.

You can leave this field blank to define a common BOP for any item.

UM

Displays the item's unit of measure.

Site

Enter the site to associate with the BOP.

You can leave this field blank to define a common BOP for any site.

Address

Enter a valid address or partner site to associate with the BOP.

You can leave this field blank to define a common BOP for any address/partner.

Transaction Type

Enter the transaction type to associate with this BOP. This can include inventory transactions as well as other transactions defined.

You can leave this field blank to define a common BOP for any transaction type.

BOP

Enter the BOP to associate with the Item/Site/Address/Transaction Type combination. The system looks for the BOP in the following order:

1. Item, transaction type, address, site
2. Item, transaction type, address
3. Item, transaction type, site
4. Item, transaction type
5. Item, address, site
6. Item, site
7. Item, address
8. Item
9. Site, transaction type, address
10. Site, transaction type
11. Site, address
12. Site
13. Address, transaction type

14. Address
15. Transaction type
16. All fields not specified

    Note If the Item/Site combination (or the item with a blank site) record exists in Dual Units of Measure:

    - The BOP must be defined as a one level structure in the Packaging Structures.
    - The BOP must have the Single Item and the Single Lot checkbox selected in Pack Codes.
    - The Pack Code UM must match Secondary Unit of Measure.
    - The BOP Quantity Per in Packaging Structures has to be equal to the Target Quantity or within the Tolerance limit set in Dual Units of Measure.

Linking a BOP to an Item/Site/Address/Transaction Type

Follow these steps to link a BOP to a site, item, address, and/or transaction type:

1. In **Item Packaging Assignments**, select New to open a blank form.
2. Enter the Item/BOM, Site, Address, and/or Transaction Type to be linked to the BOP. You can leave any of these fields blank to define a common BOP for any item, site, address, or transaction type.
3. Enter the BOP to be associated with the item/site/address/transaction type combination.
4. Select Save.

Serialized Inventory Browse

It combines the **Inventory Detail** and **Serials** browses so that you can view all inventory information for an item in one screen. For example, you can easily determine how much inventory is packaged and how much is loose, as well as the weight information for both the serialized and loose inventory.

The **Serialized Inventory** browse is similar to the **Serialized Inventory Report** but with the additional flexibility that the Web UI browse provides.

Orphaned Serial History Delete & Archive

A serial history record becomes orphaned when its associated serial record is deleted and does not exist anymore. The following scenarios can create orphaned serial history records:

- When you run Serial Delete/Archive to delete serials and set Include Serial History to No. The serial records are deleted but the serial history records are not.
- When you delete a shipper that is linked to serials in New or Booked stage, which creates PCK-DEL or SER-DEL serial history records. The serials are deleted but the serial history is not.

You can filter for orphaned serial history records by Master Serial, Serial, External Serial, Origin Code, Transaction Date, Item, Site, Location, Lot/Serial, and Reference.

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows you to see the records that fall within the specified filter criteria before deleting and archiving the records.

To delete records only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the records based on the filter criteria specified.

To archive records only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the records. The name of the file is displayed on the report.

To archive and delete records, set both the Archive and Delete options to Yes. Select Run; the system creates an archive file listing the deleted records and then deletes the records. The name of the file is displayed on the report.

Consumption Delete/Archive

When you extract data for analysis, using Extract Consumption, the system retains a table of consumption data by item, site, and GL period; you can display this data in the Consumption Report. Use Consumption Delete/Archive to delete or archive the data.

You must set Delete to Yes to archive data. If you optionally archive the consumption data by setting Archive to Yes, the system creates an archive file to store the data. The archive file name is included in the report header.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Effective Date

Enter a transaction date or a range of dates to be archived or deleted. The system converts this date to a GL period according to the GL calendar.

If a date is not selected, the system deletes or archives all consumption data.

Delete

Indicate whether you want to delete consumption data. When you specify Yes, the system deletes consumption data on the dates you specify and lets you archive data.

Archive

Indicate whether to archive consumption data. You must set Delete to Yes to archive data.

When Yes, the system creates an archive file.

Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Extract Consumption

Before the system can analyze obsolete inventory, it extracts the data to be analyzed. Obsolete Inventory Analysis extracts data when you run it; however, you can optionally extract data at any time using Extract Consumption, so long as you extract before you run Obsolete Inventory Analysis.

If you check the Retain Consumption Data checkbox in the Obsolete Inventory panel in Inventory Control, the system uses the previously extracted data when you run the analysis.

You specify the type of transaction data you want the system to extract in Extract Issue Transactions in Obsolete Inventory Control. The system analyzes data from the transactions to determine inventory consumption. The system extracts consumption data based on item, site, year, and period.

You should set the following controls and options in Inventory Control before you extract consumption data:

- Select Retain Consumption Data. If not selected, you cannot extract and store data.
- Do not select Use ABC Analysis. If selected, the system uses existing ABC analysis data when you run Obsolete Inventory Analysis.
- Specify a specific site for transactions or leave Site blank for all sites.
- Optionally, specify transaction types to extract.
- Optionally, specify a filter program for extracted data or use the default filter program.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Build

Specify one of two methods to extract consumption:

- Initial: Extraction of all data starting at the date you specify in Consumption From Date up to the current date.
- Incremental: Extraction of transactions since the previous extraction.

  Incremental extraction starts at the next transaction after the last transaction date and time the system recorded and displays in the Last Transaction Extracted option in the Obsolete Inventory panel of Inventory Control. The system extracts every transaction from the date in Last Transaction Extracted up to the time you initiate the extraction. The system then overwrites Last Transaction Extracted with the current extraction date.

Consumption From Date

Specify a date for an initial build of consumption data. The system extracts consumption data from this date up to today's date. The system stores consumption data by item, site, year, and period. The system uses the GL calendar to convert transaction dates to a year and period.

Extract Quantity on Hand

Specify Yes to have the system extract Quantity on Hand (QOH) balances for initial and incremental builds.

Customer Consigned

Specify whether the system extracts customer consignments for initial and incremental builds:

- Exclude: Exclude customer consignment inventory.
- Include: Include customer consignment inventory.
- Only: Only customer consignment inventory.

Supplier Consigned

Specify whether the system extracts supplier consignments for initial and incremental builds:

- Exclude: Exclude supplier consignment inventory.
- Include: Include supplier consignment inventory.
- Only: Only supplier consignment inventory.

Include Non-nettable

Specify Yes to include or exclude non-nettable inventory when calculating inventory supply usage for the quantity on hand for the items in the inventory type you specified.

Include Negative Inventory

Specify Yes to include negative quantity on hand (QOH) when calculating consumption.

The system uses negative QOH when calculating consumption. The system displays items with negative QOH on coverage and reserve reports. Coverage periods and reserve amounts display as 0 (zero), not negative numbers.

Obsolete Inventory Analysis

Once you identify and analyze obsolete inventory, your company financial experts can book a reserve, then use the reserve to create an inventory write-off.

Because improperly valued inventory can cause problems in company financial statements, the obsolete inventory analysis tool calculates an inventory supply value based on current inventory usage for specific inventory types over a predefined period. You define the inventory types. You can also create and assign depreciation rates for each inventory type.

You can use the obsolete inventory analysis tool to calculate demand for future inventory. You can choose to add the demand calculations to coverage calculations or use the greater of the two calculation results when determining the coverage.

Note

Before the system can analyze obsolete inventory, the system extracts the data to be analyzed. Obsolete Extract Consumption extracts data for you; however, you can optionally extract data at any time using Extract Consumption (3.5.1.7), as long as you extract using the consumption function before you run Obsolete Inventory Analysis.

Once the data is extracted, Obsolete Inventory Analysis calculates the number of periods of supply coverage and the value of obsolete inventory reserve based on depreciation rates.

You can specify how consigned inventory displays in the Customer Consigned and Supplier Consigned fields if you use Customer Consignment Inventory or Supplier Consignment Inventory. You can also optionally include non-nettable or negative inventory.

Settings

For more information about running reports, see: Reports on page 296.

You can optionally specify that the system output obsolete inventory analysis data to a Microsoft Excel spreadsheet. To specify output to a spreadsheet, select the File Type as Excel and the Layout as Excel Layout in Settings.

Filter

Inventory Type

Enter a range of inventory types for selecting transactions to analyze.

Year/Period

Enter the first GL period in a range of periods for which you want the system to analyze obsolete inventory.

If you ran Extract Consumption specifying a date range, the system uses that collected consumption coverage data here; so, the date you enter here should fall within the period you specified in Extract Consumption.

Enter the year and period. The period is in a two-digit format; for example, for January, enter 01. The period is based on a GL calendar.

Customer Consigned

Specify whether to include or exclude customer-consigned inventory or to include only customer consignment inventory when calculating inventory supply usage for the item quantity on hand in the inventory type you specified.

- Exclude: Exclude customer consignment inventory.
- Include: Include customer consignment inventory.
- Only: Only customer consignment inventory.

Supplier Consigned

Specify whether to include or exclude supplier-consigned inventory when calculating inventory supply usage for the item quantity on hand in the inventory type you specified.

- Exclude: Exclude supplier consignment inventory.
- Include: Include supplier consignment inventory.
- Only: Only supplier consignment inventory.

Demand

You can choose to have the system calculate demand. If you do, you must select one of the following for demand calculations:

- Add Demand: Add demand calculations to consumption calculations.
- Greater of Demand: Use the greater of the demand calculation or consumption calculation.

The system calculates demand quantities in the same way that MRP Summary Inquiry calculates gross requirements. That is, demand is gross requirements as currently determined by the system, excluding the quantity on hand (QOH) and scheduled receipts. MRP calculates gross requirements. Once calculated, it subtracts both the quantity on hand for the previous period and scheduled receipts to determine net requirements.

If you specify to add demand calculations to consumption calculations, the system adds demand quantities to consumption quantities based

on the GL period or period range you specify. The system determines consumption using the following calculation:

*[(Inventory QOH) / (consumption quantity for respective date range periods + demand quantity for respective date range periods)] * entire date range periods*

If you specify to use the greater of the demand or consumption calculation, the system calculates consumption and demand separately based on the GL period you specify. It determines demand using the following calculation:

*[(Inventory QOH) / (demand quantity for respective date range periods for demand)] * respective date range periods for demand*

You can print demand data by setting Report Demand to Yes in Obsolete Inventory Analysis to display demand data when the analysis is complete.

Include Non-nettable Inventory

Specify whether to include or exclude non-nettable inventory when calculating inventory supply usage for the quantity on hand for the items in the inventory type you specified.

Use AS OF QOH

When analyzing inventory, select Yes to have the system use and report the actual QOH balance for the end date of every GL period within the period range you specify in Period/Yr and To fields. The system uses the QOH balances differently when analyzing inventory, depending on whether you are adding demand to consumption or using the greater of either consumption or demand.

When you select No, the system uses and reports the QOH balance as of the analysis run date.

The system uses the QOH balances differently when analyzing inventory, depending on whether you are adding demand to consumption or using the greater of either consumption or demand. When you set Use As of QOH to Yes and:

- Both Add Demand and Greater of Demand are No, the calculation uses the QOH balance as of the GL period end dates that you specify in Period/Yr and To.
- Add Demand is Yes and Greater of Demand is No, the calculation uses the QOH balance based on the date you run the analysis.
- Use Greater of Demand is Yes, the calculation uses the QOH balance as of the GL period end dates within the date in Period/Yr and To for consumption and the QOH balance based on the extract date for demand.

Note The system reports the QOH balance along with consumption data if you select the Retain Consumption Data checkbox in the Obsolete Inventory panel in Inventory Control.

Include Negative Inventory

Select Yes to have the system include negative quantity on hand (QOH) when calculating consumption. The system displays items with negative QOH on coverage and reserve reports. Coverage periods and reserve amounts display as 0 (zero), not negative numbers.

When you select No, the system does not include negative QOH when calculating consumption.

Currency

Select a currency to use for reporting values, such as USD, EUR, and so on. Currency types are defined in the Currency Master. This option is in use when you use QAD Periodic Costing PC and have a cost calculated in statutory currency. When Periodic Costing cost sets are not in use, the system uses standard costs.

It will use standard cost if no PC cost sets are available

Items Created Before

Specify a date if you want the system to include items that were added up to this date. Use this field to exclude any items from analysis that have not existed for sufficient time to build up an issue history.

Report Consumption

Select Yes to report consumption data. The system reports consumption data by inventory types, item numbers, sites, consumption dates, periods, quantities, and QOH. Select No when you do not want the system to report consumption data.

When Retain Consumption Data is not selected in the Obsolete Inventory panel in Inventory Control, the system extracts data first, then reports it. If Retain Consumption Data is selected, the system reports the previously extracted data.

Report Demand

Specify Yes to display demand in this report. For more information, see the Demand option description in this online help.

Report Coverage

Specify Yes to report supply coverage data. Supply coverage data includes the number of periods that the current quantity on hand supplies based on the average past usage. The system reports coverage data by item, site, inventory type, quantity on hand, total issues, and average issues.

Report Reserve

Obsolete Inventory Analysis calculates the value of obsolete inventory reserve. It calculates reserve values based on the following equation:

*(Depreciation rate for items specified) * (item's standard cost)*

Specify Yes to display obsolete inventory reserve.

Projected Surplus Inventory

Different companies have different criteria for surplus inventory. The most common criteria is that anything over one year's supply is surplus. This means that using effective date, inventory beyond today + 365 is surplus. The other common definition of surplus is at the end of a run for a particular item.

To understand how to use this report, review the following example, which uses the end-of-run definition of surplus:

Your company makes 200 of item A; then, closes down the line once the 200 are complete. You have ensured that you have forecasts covering 200 of item A and sufficient quantity of all other end items so that those items are fully consumed between now and the effective date that you select. At the close, you run Material Requirements, then run this report at the effective date. All non-surplus items are consumed (either by forecasts for other end products or by forecasts for 200 item As). Any remaining items print on the Projected Inventory Report; these are the items left over after 200 sets of item A have been built that are not consumed by other demands.

You can run this report to see the quantity on order for an item, the expired quantity and valuation, and the ending quantity (depending on projection method) and valuation. Each affected item is printed; totals are printed for each product line and site.

When you select the Average Usage projection method, the formula is:

*ending quantity = today's onhand_balance - ((effdate - today) * (avg usage)) > 0*

When using Average Usage, run Item ABC Status Update first to flush the accumulated issue change to average issues. Average issues is an exponentially smoothed average with the averaging interval (in_avg_int) used as the smoothing constant.

Selecting the cost method determines whether the valuations use current or GL costs.

Settings

For more information about running reports, see: Reports on page 296.

You can optionally specify that the system output projected inventory surplus data to a Microsoft Excel spreadsheet. To specify output to a spreadsheet, select the File Type as Excel and the Layout as Excel Layout in Settings.

Filter

Site

Enter the sites for which you want to view projected inventory surplus.

Product Line

Enter product lines to filter records for the report.

Item Number

Enter item numbers to filter records for the report.

ABC Class

Enter ABC classification codes to filter records for the report.

A blank selects all records in the item range specified, regardless of the ABC code. Enter A, B, or C to select only those items with the specified ABC code.

Location

Enter location codes to filter records for the report. Locations identify physical locations where inventory is stored.

Inventory Status

Enter inventory status codes to filter records for the report.

Inventory status codes identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference. They can also determine whether specific inventory balances on hand are available for allocation to orders or for consideration by Material Requirements.

Effective Date

Enter the date for which you want the system to create this surplus inventory projection.

Effective date is used to calculate the quantity on order, expired quantity and value, and the ending inventory quantity and value. The system starts with today's balances and adds in future planned activity up through this date, arriving at an inventory projection.

Projection Method

Select the method as either MRP or Average Use to use when projecting future planned activity.

When you select Avg Use, the average usage for an item, calculated by Item ABC Status Update, determines the quantity you expect to use.

When you select MRP, the planned activity determines the quantity you expect to use.

Using actual Materials Requirements data to project surplus inventory balances is likely to be more accurate than using average usage, but it does assume that master schedules have been loaded into the future at least as far as the report effective date.

Cost Set

Specify the name of the cost set storing the general ledger (GL) cost for this item at this site. The default is Standard.

The cost set is used by Detail Forecast Report to calculate the cost of production and sales price for the item forecast.

Include Firm Planned Orders

Select Yes to have the system count firm planned orders as future supply for all items. The quantity will appear on the report as On Order. For example, if an item's quantity on hand is zero, firm planned orders are 100 and sales orders are 50, the report shows a surplus (ending quantity) of 50. If set to No, the system ignores firm planned orders. In the above example, the item would not appear on the report.

This report always calculates an item's surplus using the MRP demand (gross requirements), if any; therefore, you should select Yes in most cases so that the report also includes the MRP supply (planned or firm planned orders or both). Otherwise, the report may be inaccurate.

Include MRP Planned Orders

Select Yes to have the system count planned orders as future supply for all items. The quantity will appear on the report as On Order.

This report always calculates an item's surplus using the MRP demand (gross requirements), if any; therefore, you should select Yes in most cases so that the report also includes the MRP supply (planned or firm planned orders or both). Otherwise, the report may be inaccurate.

Inventory Depreciation Rates

Note You can create inventory types in **Inventory Types**.

Assign deprecation rates for each inventory type, then specify a range for the number of periods the depreciation rate covers. For example, specify an inventory type that groups your purchased items, then set the depreciation rate so that the rate slowly increases for the next two years in periods of six months until you no longer need the purchased item.

To do this, set the Up To Number Of Periods field to 6 and the Depreciation Rate field at 10 percent. Then, set the Up To Number Of Periods field to 12 and the Depreciation Rate field at 20 percent, and so on. The purchased items depreciate up to 6 months by 10 percent, then up to 12 months by 20 percent.

If you do not want an inventory item type to depreciate until after nine months, specify the rate as 0 (zero) and specify the Up To Number Of Periods field as 9. The system applies a different depreciation rate, depending upon your specification, for the next period when the nine months are over.

Note The system does not book GL transactions for reserve that it calculates using actual depreciation rates.

You can assign a separate deprecation rate for the system to use when consumption, demand, or both are zero.

To do this, specify the options—Consump(tion), Demand, or Both in the Zero Consumption/Demand field, then specify a different depreciation rate.

If you specify Consumption, Demand, or Both, the system sets the Up To Number Of Periods field to 0 (zero) and you cannot edit the field.

Inventory Depreciation Rates is a part of an inventory analysis tool. The analysis tool lets you identify inventory investments that can depreciate. It lets your company's financial analyst book a reserve, and then use the reserve to create an inventory write-off.

Other obsolete inventory analysis programs perform the following tasks:

- Define the inventory item types.
- Provide data to calculate the supply value.
- Provide data to calculate the obsolete inventory reserve.

Main Panel

Inventory Type

Specify the inventory type to which the system applies the depreciation rate.

All items associated with the inventory type are depreciated at this rate when calculating reserve.

Zero Consumption/Demand

Specify when the system should use a different depreciation rate by selecting one of the following options:

- None: Use the depreciation rate specified when consumption, demand, or both have a non-zero value. You can specify the number of periods in the Up To Number Of Periods field. If you select None but specify 0 (zero) periods, the system uses the depreciation rate you specify.
- Consump: Use the depreciation rate specified when there is zero consumption of inventory. The system automatically sets the Up To Number Of Periods field to 0 (zero) and you cannot edit the field.
- Demand: Use the depreciation rate when there is zero demand for inventory. The system automatically sets the Up To Number Of Periods field to 0 (zero) and you cannot edit the field.
- Both: Use the depreciation rate when there is both zero consumption and demand of inventory. The system automatically sets the Up To Number Of Periods field to 0 (zero) and you cannot edit the field.

Up To Number Of Periods

Specify the number of periods this rate covers. Each value you specify indicates the high end or ending period of a range. The system increments this value by 1 to determine the starting point of the next range.

For example, if you enter 3 in the Up To Number Of Periods field, the system stores 0 to 3 as the period range to cover. Then, if you enter 20 in the Up To Number Of Periods field, the system sets the next period range as 4 to 20.

Specify 0 (zero) to indicate no usage. The maximum is 9999 periods.

Note Specify the maximum of 9999 to prevent coverage periods from falling out of ranges.

The system stores the periods and rates in a depreciation rate detail table. When you run **Obsolete Inventory Analysis**, the system looks up the period you specify to analyze in the depreciation rate detail table to determine in which range of periods your specified period falls.

If you specify a value other than None for Zero Consumption/Demand, the system sets this field to 0 (zero) and you cannot edit it.

Depreciation Rate

Enter the depreciation rate percentage for the specified inventory type.

Depreciation rates do not have to sum to 100% for any range or inventory type of items, however, a rate cannot exceed 100%.

Comment

Enter a comment to mark data in obsolete inventory reports. The comment must be no longer than eight characters. For example, enter Excess to mark rates you assign to excess inventory items that depreciate.

The system prints the comments with reserve data when you specify Yes for the Report Reserve option in **Obsolete Inventory Analysis**.

Creating an Inventory Depreciation Rate

1. Go to **Inventory Depreciation Rates**.
2. In the toolbar, click the New button.
3. Complete the fields described above.
4. Click Save.

Modifying an Inventory Depreciation Rate

1. Go to **Inventory Depreciation Rates**.
2. Select the rate you want to modify and click Edit, or double-click.
3. Edit the applicable information.
4. Click Save.

Deleting an Inventory Depreciation Rate

1. Go to **Inventory Depreciation Rates**.
2. Double-click the rate you want to delete.
3. In the toolbar, click the Delete button.
4. A message appears prompting you to confirm the deletion. Click Delete.

Inventory Dual Unit of Measure

For inventory defined with dual units of measure, you can see the quantities in both the primary and secondary units of measure.

Note Serialized units, mixed packs, non-homogeneous packs, and multilevel pack inventory are not included in this browse.

Inventory Dual Unit of Measure (QRF)

Note Serialized units, mixed packs, non-homogeneous packs, and multilevel pack inventory are not included in this report.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item Number

Select the range of item numbers to include in this report.

Site

Select the range of sites to include in this report.

Location

Select the range of locations to include in this report.

Lot/Serial

Select the range of lot/serials to include in this report.

Reference

Select the range of references to include in this report.

Click **Run** to complete the report.

Manual Post IC Transactions

Note Other Intrastat and Extrastat records are automatically posted when inventory is issued. For example, sales orders update history when items are shipped.

You can choose to post the selected record to Intrastat or Extrastat history or delete it. When you choose to post, you must confirm the posting first. After confirmation, a history record is created using the data supplied in the detail.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

Order

Enter the order number associated with the data to be posted. This field is mandatory.

Line

Enter the order line number associated with the data to be posted. This field is mandatory.

Post Intrastat

Specify whether to post Intrastat IC data to the Intrastat History record by selecting one of the following options:

- No: The data is not posted. A report is generated in simulation mode. By default, this option is selected.
- Yes: The data is posted to the Intrastat History record.

Update Location Detail Allocations

This utility works by validating and correcting Location Detail (ld_det) records using the associated Location Allocation Detail (lad_det) records. If the ld_det records are incorrect or incomplete, the utility aligns them with the corresponding lad_det records.

The utility also ensures the completeness of your location information by creating missing Location Master (loc_mstr) records when necessary.

Note This utility is intended for support purposes only and should only be used if specifically requested by the support team.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data.

Site

Enter a range of sites.

Location

Enter a range of locations.

Item

Enter a range of items.

Product Line

Enter a range of product lines.

Item Type

Enter a range of item types.

Update

Specify whether this report should run in update mode or simulation mode by selecting one of the following options:

- Yes: Run this report in update mode and update the records in the database.
- No: Run this report in simulation mode and do not update records in the database. Generate a report only, listing the selected records. This option is the default option.

Lot Masters

Lot Masters creates lot master records based on inventory transaction history. These records represent a historical list of all lots and serial numbers used in the system. Whenever you assign a new lot or serial number and Lot Control Level is 1 or 2, the system automatically updates the lot master. You can change the Lot Control Level and run Lot Masters as often as necessary. You must run this program when:

- You change the Lot Control Level in Inventory Control from 0 to 1 or 2.
- You load archived records back into inventory transaction history.

  Note Lot Control Level 2 prevents the creation of duplicate item and lot/serial combinations. However, if duplicate numbers already exist in the system, **Lot Masters** does not change them.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Optionally, enter the range of items. Leave blank to include all items.

Date

Optionally, enter the range of ship dates for this function to consider. Leave blank to include all dates.

Transmission

Optionally, enter a range of transaction numbers. Each transaction history record is uniquely identified by a transaction number, assigned by the system.

Update

Select Yes to run this program in update mode and update records in the database.

Select No to run this program in simulation mode without updating the database.

Creating a Lot Master

1. Go to **Lot Masters**.
2. Enter the following applicable filter information:
   - Item

- Date
- Transmission
- Update: Select Yes to run this report in update mode or select No to run this report in simulation mode without updating the database.

3. Click **Run**

Service Restrictions

- RMAs
- RMA > Receive Order action
- RMA > Ship Allocated action
- RTS
- Material Orders
- Material Orders > Ship Allocated action

For each item, restrictions are based on combinations of From and To sites and locations. Restrictions apply to the domain where they are defined; they allow or prevent maintaining orders and creating receipts and shipments. If no restrictions are defined, all roles with access to these programs can maintain records and create receipts and shipments for RMAs, RTSs, and MOs for any item.

You should define RMA, RTS, and MO restrictions as part of a general security model, which includes role-based access security, site security, and field security. The system applies site and field security before update restrictions.

Creating even one restriction has broad effects:

- Defining a restriction that allows a role to maintain records and create receipts and shipments for items with some combination of values prevents all roles from these tasks for any other combinations. Additional restrictions must be defined in order to allow the specified role to maintain records and create receipts and shipments for any other combinations and for other roles to maintain any records or create any receipts or shipments at all for RMAs, RTSs, and MOs.
- Defining a restriction that prevents one role from maintaining records and creating receipts and shipments for some combination of item and values prevents all roles from doing these tasks for all other combinations. Additional restrictions must be defined in order to allow any role to do any of these tasks for any combinations.

General Rules for Update Restrictions

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions , for example, then Inventory Detail is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a restriction in Inventory Detail Restrictions has no effect on Sales Orders because Sales Order restrictions are specified in Sales Order Restrictions.

- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.
- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.
- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are set up. If a transaction matches a field value that is excluded for a role -- for example, Site: !10000 -- the system fails the transaction without considering the values of the fields lower in the setup screen.
- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item, site, and location can be entered using wild card values. The asterisk (*) and exclamation point (!) can be used as inclusion and exclusion wild cards respectively:

* indicates access to all

string* indicates access to all beginning with string

string indicates access to that string only

!string* indicates access is restricted from all beginning with that string

!string indicates access is restricted from that string only

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

Security Example 1:

For the specified role, one restriction is defined for a combination of values:

Role (Stock), Item (22-100*), From Site (10000), To Site (11000), From Location (100), To Location (200)

Only users with the Stock role can record and create receipts and shipments for RMAs, RTSs, and MOs with this combination of values. This role cannot do these tasks for any other combinations; no other role can do these tasks for any combinations at all.

Security Example 2:

When users will be prevented from maintaining orders and creating receipts and shipments for RMAs, RTSs, and MOs for only a few combinations of values, it is best to first define restrictions that allow all such tasks; then define additional restrictions for the small set of value combinations where changes are prevented.

For each role, set access to all (*) for all items, sites, and locations; then set the further restrictions:

Item (*), From Site (*), To Site (*), From Location (*), To Location (*)

Item (!22-200*), From Site (*), To Site (*), From Location (*), To Location (*)

For each role where these restrictions are defined, they prevent maintaining records and creating receipts and shipments for items that begin with 22-200; records, receipts, and shipments can still be maintained or created for all other value combinations.

Service Restrictions View

Summary Panel

The Summary panel displays information about the role affected by the service restrictions. This field is read-only and stays in view even when you scroll down the page.

Main Panel

Role

Enter the name of a role defined in your system and assigned to users. This is a mandatory field.

Restrictions Panel

Item

Enter the item that is part of the definition for this update restriction. This is a mandatory field.

From Site

Enter the originating or shipping site that is part of the definition for this update restriction. This is a mandatory field.

From Location

Enter the originating or shipping location that is part of the definition for this update restriction. This is a mandatory field.

To Site

Enter the last in a range of sites for selecting records to be considered. This is a mandatory field.

To Location

Enter the last in a range of locations for selecting records to be considered. This is a mandatory field.

Creating Service Restrictions

1. Go to **Service Restrictions**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Service Restrictions view on page 3101. Add as many restrictions as needed in the Restrictions panel.
4. Click **Save** to continue.

Modifying Service Restrictions

1. Go to **Service Restrictions**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Service Restrictions

1. Go to **Service Restrictions**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Distribution Order Restrictions

- Distribution Orders

For each item, restrictions are based on combinations of shipping sites and locations and receiving sites. Restrictions apply to only the domain where they are defined; they allow or prevent maintaining DOs. If no restrictions are defined, all roles with access to these programs can maintain DOs for any item.

You should define Distribution Order restrictions as part of a general security model, which includes role-based access security, site security, and field security.

Creating even one restriction has broad effects:

- Defining a restriction that allows a role to maintain DOs for items with some combination of shipping site, shipping location, and receiving site values prevents all roles from maintaining DOs for any other item and site combinations. Additional restrictions must be defined in order to allow the specified role to maintain DOs for any other combinations and for other roles to maintain DOs at all.
- Defining a restriction that prevents one role from maintaining DOs for an item with some combination of values prevents all roles from maintaining DOs for any other items and combinations. Additional restrictions must be defined in order to allow any role to maintain DOs for any items at all.

General Rules for Update Restrictions

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions , for example, then Inventory Detail is secured for all transactions.
- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions, for example, then Inventory Detail is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a restriction in Inventory Detail Restrictions has no effect on Sales Orders because Sales Orders restrictions are specified in Sales Order Restrictions.
- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.

- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.
- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are set up. If a transaction matches a field value that is excluded for a role; for example, Site: !10000, the system fails the transaction without considering the values of the fields lower in the setup screen.
- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item, sites, and location can be entered using wild card values. The asterisk * and exclamation point ! can be used as inclusion and exclusion wild cards respectively:

* indicates access to all

string* indicates access to all beginning with string

string indicates access to that string only

!string* indicates access is restricted from all beginning with that string

!string indicates access is restricted from that string only

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

Security Example 1:

For the role Admin1, restrictions are defined to allow maintaining DOs for multiple item and value combinations:

Role (Admin1), Item (22-1*), Ship-FromSite (10000), Ship-FromLocation (100), Ship-ToSite (12000)

Role (Admin1), Item (22-2*), Ship-FromSite (10000), Ship-FromLocation (200), Ship-ToSite (12000)

With these restrictions defined, Admin1 users can maintain DOs for items that begin with 22-1 in Ship-FromSite 10000 and Ship-FromLocation 100 for Ship-ToSite 12000 and for items that begin with 22-2 in Ship-FromSite 10000 and Ship-ToLocation 200 for Ship-ToSite 12000.

Admin1 users cannot maintain DOs for any other items and value combinations and no other role can maintain DOs for any items at all.

Security Example 2:

In this example, an administration role (Admin1) is restricted from maintaining DOs for a specific item. If most roles can maintain DOs for most items, it is best to first define restrictions that allow all changes; then define additional restrictions for the small set of value combinations where changes are prevented.

For each role, set access to all (*) for items, sites, and locations to allow the role to maintain all items at all sites and locations.

Item (*), Ship-From (*), Ship-From Location (*), Ship-ToSite (*)

After completing the general availability restrictions, define a restriction that prevents the role Admin1 from maintaining DOs for all items that begin with 22-100.

Role (Admin1), Item (!22-100*), Ship-From Site (*), Ship-From Location (*), Ship-ToSite (*)

The role Admin 1 can maintain DOs for all items in all sites and locations except for items that begin with 22-100. All other roles can maintain DOs for all items.

Distribution Order Restrictions View

Summary Panel

The Summary panel displays the information about the role affected by the distribution order restrictions you are creating. This field is read-only and stays in view even when you scroll down the page.

Main Panel

Role

Enter the name of a role defined in your system and assigned to users. This is a mandatory field.

Restrictions Panel

Add or edit the records directly in the grid or select details to open the Restrictions Detail View. All fields are mandatory.

Item

Enter the item that is part of the definition for this update restriction.. This is a mandatory field.

Ship-From

Enter the originating or shipping site that is part of the definition for this update restriction. This is a mandatory field.

Ship-From Location

Enter the originating or shipping location that is part of the definition for this update restriction. This is a mandatory field.

Ship-To

Enter the receiving site that is part of the definition for this update restriction. This is a mandatory field.

Creating Distributon Order Restrictions

1. Go to **Distribution Order Restrictions**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Distribution Order Restrictions on page 3105 view. Add as many restrictions as needed in the Restrictions panel.
4. Click **Save** to continue.

Modifying Distribution Order Restrictions

1. Go to **Distribution Order Restrictions**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Distribution Order Restrictions

1. Go to **Distribution Order Restrictions**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Restrictions

- Inventory Transfer Restrictions
- Inventory Detail Restrictions
- Unplanned Issue & Receipt Restrictions
- Purchase Order Restrictions
- Purchase Order Receipt Restrictions
- Sales Order Restrictions
- Sales Order Shipment Restrictions
- Distribution Orders Restrictions
- Distribution Orders Shipment Restrictions
- Distribution Orders Receipt Restrictions
- Service Restrictions

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Role

Enter a range of roles to include in the report. Leave blank to include all roles.

Item

Enter a range of items to include in the report. Leave blank to include all items.

Site

Enter a range of sites to include in the report. Leave blank to include all sites.

Note If site security is configured you must select a valid site within the limitations of the security settings.

Location

Enter a range of locations to include in the report. Leave blank to include all locations.

Category

Enter a range of restriction categories to include in the report. Leave blank to include all categories.

Click **Run** to generate the report.

Set Qty Oh/Qty All/Qty Req

Due to incorrect inventory details that can occur from abnormal terminations, you can use this function to:

- Check the detail records, total them, and recalculate the quantity allocated, quantity on order and quantity required in the in_mstr record.
- Validate existing allocations for confirmed sales order lines, open WOs and open Intersite Requests.
- Validate quantities on hand
- Update the quantity on order with the quantity open

Note This utility is for support purposes only and should only be used if support has requested this to be run.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Enter a range of items. Leave blank to include all items.

Site

Enter a range of sites. Leave blank to include all sites.

Line

Enter a range of product lines. Leave blank to include all product lines.

Type

Enter a range of item types. Leave blank to include all item types.

Buyer/Planner

Enter a range of buyers/planners. Leave blank to include all buyer/planners.

Supplier

Enter a range of suppliers. Leave blank for all suppliers.

Update

Select Yes to run this program in update mode and update records in the database.

Select No to run this program in simulation mode without updating the database.

Sort By

Select how the report should be sorted

- Item
- Site

Click **Run** to continue.

Work Center Reserved Locations

Work center reserved locations work together with production line reserved locations to designate shop floor inventory for production at those work centers and production lines.

Inventory at a work center reserved location is considered as available for allocation and consumption by production at that work center, but not available to allocate for other purposes.

There are two ways to designate reserved locations for a work center:

- Define a general work center reserved location that is not specific to particular items. Do this by leaving the item blank and designating the inventory location.
- Define a work center reserved location for an item. Do this by providing both an item and an inventory location.

Work Center Reserved Locations

Summary Panel

The Summary panel displays the information about the work center. This field is read-only and stays in view even when you scroll down the page.

Main Panel

Work Center

Displays the work center. This field cannot be modified.

The work center and the machine together identify a work center, which is a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Work centers are used throughout the system for planning and reporting. Each operation must reference a work center. For manufacturing routings and processes, this determines the cost of the operation and is used to calculate product costs and lead time.

Most reports can be selected and sorted by work center, in particular, dispatch lists and capacity planning reports.

At least one department must be defined before you can create a work center. Then subdivide each department into logical work centers.

A work center is a specific production unit within a department consisting of one or more people and one or more machines. Set up one work center for each supplier providing outside processing for subcontract operations.

Work centers are alphanumeric and sort using a lexical sort, like entries in a telephone directory. Keep this in mind when developing a coding scheme.

Machine

Displays the machine. This field cannot be modified.

The work center and the machine together identify a work center, which is a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Work centers are used throughout the system for planning and reporting. Each operation must reference a work center. For manufacturing routings and processes, this determines the cost of the operation and is used to calculate product costs and lead time.

Where there is more than one person or machine in a work center, can they be used interchangeably? With two identical paint bays, you could schedule a paint operation at either one. The paint time would be the same. You could set this up as one work center and leave the machine blank.

However, two CNC machines, one old and one new, may not have the same operating characteristics and perhaps may not be used interchangeably. Work scheduled on one may not be easily changed over to another. Work centers which consist of several different machines are normally set up using a common work center and different machines.

Work Center Reserved Panel

Add, edit or delete the records directly in the grid or select details to open the **Work Center Reserved Detail** view.

Item

Leave this field blank to designate an inventory location as a general work center reserved location. Enter an item to define a work center reserved location for that item. Do this when inventory quantities for the item are not maintained at the general work center reserved location.

Description

Displays the description of the item.

Site

Enter the site for the work center. This field is mandatory.

Location

Enter a location for the physical, shop floor location for the reserved location. This field is mandatory. You can designate one or more inventory locations as a reserved location for a production line or work center.

To shelter inventory at a production line or work center location, for production at that production line or work center, select an inventory location that is defined with an inventory status code that determines

that inventory quantities at that location are not available. Production allocation and picklist functions recognize inventory quantities at those reserved locations as available for production orders and operations, even though the inventory status code indicates otherwise.

Available

Indicates the available status for the inventory location as determined by the inventory status that is defined for the location.

Preference

An integer value that determines the order which reserved locations for a production line or work center are evaluated by production allocation functions, when there are more than one general reserved locations defined for a production line or work center.

Adding and Modifying Work Center Reserved Locations

1. Go to **Work Center Reserved Locations**.
2. Select the work center reserved location you want to modify and click **Edit**. Alternatively, double-click the work center reserved location.
3. Add, edit or delete the applicable information in the Work Center Reserved panel. on page 3112
4. Click **Save**.

Inventory Detail Restrictions

- Inventory Detail

For each item, restrictions are based on combinations of sites, locations, and inventory statuses. Restrictions apply to the domain where they are defined; they allow or prevent changes to inventory details including expiration date, grade, and assay percentage and can specify specific combinations of From and To inventory status changes. If no restrictions are defined, all roles with access to these programs can change inventory details for any item.

You should define inventory detail restrictions as part of a general security model, which includes role-based access security, site security, and field security. The system applies site and field security before update restrictions.

Creating even one restriction has broad effects.

- Defining a restriction that allows a role to change inventory details for items with some combination of values prevents all roles from changing details for any other items and combinations. Additional restrictions must be defined in order to allow the specified role to change the details for any other combinations and for other roles to change any details at all.
- Defining a restriction that prevents one role from changing the inventory details for an item with some combination of values prevents all roles from changing details for any other items and combinations. Additional restrictions must be defined in order to allow any role to change details of items with any combinations.

General Rules for Update Restrictions

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions , for example, then Inventory Details is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a restriction in Inventory Detail Restrictions has no effect on Sales Orders because Sales Orders restrictions are specified in Sales Order Restrictions.}
- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.
- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.

- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are set up. If a transaction matches a field value that is excluded for a role -- for example, Site: !10000 -- the system fails the transaction without considering the values of the fields lower in the setup screen.
- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item, site, location, and status values can be entered using wild card values. Use the asterisk * and exclamation point ! as inclusion and exclusion wild cards respectively:

* indicates access to all

string* indicates access to all beginning with string

string indicates access to that string only

!string* indicates access is restricted from all beginning with that string

!string indicates access is restricted from that string only

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

Maintaining Valid To Statuses

Multiple To statuses can be specified for each site, location, and From status combination for an item. Select the Change Inventory Status checkbox, and a child grid will be displayed to manage the valid To Inventory Statuses.

If Change Inventory Status is not checked, the child grid will be hidden, and the system will delete any previously entered To Inventory Statuses.

Security Example 1:

For the specified role, a restriction is defined for one item and values combination:

Role (Stock), Item (22-100), Site (10000), Location (100), From Status (10), To Statuses (20, 30)

In the absence of any other defined restrictions, the restriction has these effects:

- Only users with the Stock role can change inventory status for an item with this combination of values to status 20 or 30.
- This role cannot make status changes for this item with this combination of values to any other statuses.
- This role cannot make status changes for any other item.

- No other role can make status changes for any item.

Security Example 2:

For users to be prevented from changing inventory status for items with only a few combinations of values, it is best to first define restrictions that allow all changes; then, define additional restrictions for the small set of combinations where changes are prevented.

For each role, define a restriction that covers all items, sites, locations, From statuses, and To statuses:

Item (*), Site (*), Location (*), Inventory Status (*), Change Inventory Status is Yes

In the Valid Inventory Status Code frame, add all possible To status codes.

Once all roles can make status changes for all items, define the restriction to prevent changing inventory status for a small number of items:

Item (!22-200*), Site (10000), Location (100), Inventory Status (*), Change Inventory Status is No

For each role where these restrictions are defined, the restriction prevents changes to inventory details for items that begin with 22-200 in site 10000 and location 100, including modifying inventory status. Details can still be changed for items with all other value combinations.

Security Example 3

When some users are no longer allowed to make certain inventory status changes, update the restriction for the affected roles:

Role (Stock), Item (22-100*), Site (10000), Location (*), Inventory Status (*), Change Inventory Status is No

Users with the Stock role can access inventory records for item numbers beginning with 22-100 with any inventory status in any location at site 10000. These users can update Expire Date, Grade, and Assay Percentage, but they cannot update Inventory Status.

Inventory Detail Restrictions View

Summary Panel

The Summary panel displays the information about the role affected by the inventory detail restrictions. This field is read-only and stays in view even when you scroll down the page.

Main Panel

Role

Enter the name of a role defined in your system and assigned to users. This is a mandatory field.

Use roles to streamline security setup. When a new user record is created, you assign the user a role to ensure they have correct access.

Restrictions Panel

Item

Enter the inventory item defined in Items. This is a mandatory field.

Site

Enter the site that is part of the definition for this update restriction. This is a mandatory field.

Location

Enter the location that is part of the definition for this update restriction. This is a mandatory field.

Inventory Status

Enter the original or starting Inventory Status that is part of the definition for this inventory restriction. This is a mandatory field.

Restrictions can specify whether this status can be changed to another specified status or whether it can be changed at all. This is part of a restriction definition that specifies which roles have access to update specific combinations of items, sites, and locations.

Change Inventory Status

Indicate how you want this update restriction to apply to inventory status changes.

If you unselect the checkbox, users can change other inventory details such as assay percentage and expire date but they cannot change the inventory status.

If you select the checkbox, users can modify the inventory status associated with records for the specified combination of item, site, and location as long as they select an inventory status associated with this restriction. When you select the checkbox, a child grid is available to enter the target inventory statuses that are allowed.

Creating Inventory Detail Restrictions

1. Go to **Inventory Detail Restrictions**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Inventory Detail Restrictions view on page 3116.

4. Click **Save** to continue.

Modifying Inventory Detail Restrictions

1. Go to **Inventory Detail Restrictions**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Inventory Detail Restrictions

1. Go to **Inventory Detail Restrictions**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Sales Orders Restrictions

- Sales Orders
- Sales Orders > Copy to Quote action
- Sales Orders > Copy action
- Customer Scheduled Orders
- Sales Quotes
- Sales Quotes > Copy action
- Sales Quotes > Release action

For each item, restrictions are based on combinations of values for site and location. Restrictions apply to only the domain where they are defined; they allow or prevent maintaining orders, invoices, and quotes. If no restrictions are defined, all roles with access to these can maintain sales orders, invoices, and quotes for any item.

You should define sales order restrictions as part of a general security model, which includes role-based access security, site security, and field security. The system applies site and field security before update restrictions.

Creating even one restriction has broad effects.

- Defining a restriction that allows a role to maintain sales orders, invoices, and quotes for items with some combination of site and location values prevents all roles from maintaining the orders, invoices, and quotes for any other items and combinations. Additional restrictions must be defined to allow the specified role to maintain orders, invoices, and quotes for any other combinations and for other roles to maintain orders, invoices, and quotes at all.
- Defining a restriction that prevents one role from maintaining sales orders, invoices, and quotes for an item with some combination of values prevents all roles from maintaining orders, invoices, and quotes for any other items and combinations. Additional restrictions must be defined to allow any role to maintain orders, invoices, and quotes for any items.

General rules for update restrictions.

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions , for example, then Inventory Detail is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a restriction in Inventory Detail Restriction has no effect on Sales

Orders because Sales Order restrictions are specified in Sales Order Restrictions.

- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.
- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.
- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are set up. If a transaction matches a field value that is excluded for a role, for example, Site: !10000, the system fails the transaction without considering the values of the fields lower in the setup screen.
- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item number, site, and location can be entered using wild card values. The asterisk (*) and exclamation point (!) can be used as inclusion and exclusion wild cards respectively:

- * indicates access to all.
- string* indicates access to all beginning with string.
- string indicates access to that string only.
- !string* indicates access is restricted from all beginning with that string.
- !string indicates access is restricted from that string only.

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

1. Security example

   For the role SalesAdmin, restrictions are defined to allow maintaining sales orders, invoices, and quotes for multiple item and value combinations:

   - Role (SalesAdmin), Item (22-1*), Site (10000), Location (100).
   - Role (SalesAdmin), Item (22-2*), Site (10000), Location (200).

   With these restrictions defined, SalesAdmin users can maintain orders, invoices, and quotes for items that begin with 22-1 in site 10000 and location 100 and for items that begin with 22-2 in site 10000 and location 200.

SalesAdmin users cannot maintain orders, invoices, and quotes for any other items and value combinations and no other role can maintain orders, invoices, and quotes for any items at all.

2. Security example

   In this example, an administration role (Admin5) is restricted from maintaining sales orders, invoices, and quotes for a specific item number. If most roles can maintain orders, invoices, and quotes for most items, it is best to first define restrictions that allow all changes. Then, define additional restrictions for the small set of value combinations where changes are prevented.
   For each role, set access to all (*) for items, sites, and locations to allow the role to maintain sales orders, invoices, and quotes all items at all sites and locations.

- Item (*), Site (*), Location (*).

  After completing the general availability restrictions, define a restriction that prevents the role Admin5 from maintaining sales orders, invoices, and quotes for all items that begin with 22-100.

- Role (Admin5), Item (!22-100*), Site (*), Location (*).

  The role Admin 5 can maintain orders, invoices, and quotes for all items in all sites and locations except for items that begin with 22-100. All other roles can maintain orders, invoices, and quotes for all items.

Sales Orders Restrictions View

Main Panel

Role

Enter the name of a role defined in your system and assigned to users. This is a mandatory field.

Restrictions Panel

Add or edit the records directly in the grid or select details to open the Restrictions Detail View. All fields are mandatory.

Item

Enter an item defined in Items. This is a mandatory field.

Site

Enter the originating or shipping site that is part of the definition for this update restriction. This field is mandatory.

Location

Enter the originating or shipping location that is part of the definition for this update restriction. This field is mandatory.

Creating Sales Order Restrictions

1. Go to **Sales Orders Restrictions**.

2. Click the **New** button to add a new record.
3. Complete the fields described in the Sales Orders Restrictions on page 3121 view.
4. Click **Save** to continue.

Modifying Sales Order Restrictions

1. Go to **Sales Orders Restrictions**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Sales Order Restrictions

1. Go to **Sales Orders Restrictions**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Sales Order Shipment Restrictions

- Picklist & Pre-Shipper - Automatic
- Pre-Shippers > Confirm action
- Pre-Shipper/Shipper Auto Confirm
- Pre-Shipper/Shipper Print
- Shippers
- Shippers > Confirm action
- Shippers > Unconfirm action
- Sales Orders > Ship Allocated action

For each item, restrictions are based on combinations of sites and locations. Restrictions apply to only the domain where they are defined; they allow or prevent maintaining shippers and creating shipments. If no restrictions are defined, all roles with access to these programs can maintain shippers and create shipments for any item.

You should define shipment and shipper restrictions as part of a general security model, which includes role-based access security, site security, and field security. The system applies site and field security before update restrictions.

Creating even one restriction has broad effects.

- Defining a restriction that allows a role to maintain shippers and create shipments for items with some combination of site and location values prevents all roles from maintaining shippers and creating shipments for any other items and combinations. Additional restrictions must be defined in order to allow the specified role to maintain shippers and create shipments for any other combinations and for other roles to maintain shippers or create shipments at all.
- Defining a restriction that prevents one role from maintaining shippers and creating shipments for an item with some combination of values prevents all roles from maintaining shippers and creating shipments for any other items and combinations. Additional restrictions must be defined in order to allow any role to maintain shippers and create shipments for any items.

General Rules for Update Restrictions

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions, for example, then Inventory Detail is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a

restriction in Inventory Detail Restrictions has no effect on Sales Orders because Sales Order restrictions are specified in Sales Order Restrictions.

- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.
- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.
- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are set up. If a transaction matches a field value that is excluded for a role; for example, Site: !10000, the system fails the transaction without considering the values of the fields lower in the setup screen.
- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item, site, and location can be entered using wild card values. The asterisk * and exclamation point ! can be used as inclusion and exclusion wild cards respectively:

* indicates access to all

string* indicates access to all beginning with string

string indicates access to that string only

!string* indicates access is restricted from all beginning with that string

!string indicates access is restricted from that string only

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

Security Example 1:

For the specified role, one restriction is defined for a combination of values:

Role (Stock), Item (22-100*), From Site (10000), To Site (11000), From Location (100), To Location (200)

Only users with the Stock role can create receipts and shipments for RMAs, RTSs, and MOs with this combination of values. This role cannot do these tasks for any other combinations; no other role can do these tasks for any combinations at all.

Security Example 2:

When users have to be prevented from maintaining orders and creating receipts and shipments for RMAs, RTSs, and MOs for only a few combinations of values, it is best to first define restrictions that allow all such tasks; then define additional restrictions for the small set of value combinations where changes are prevented.

For each role, set access to all (*) for all items, sites, and locations; then set the further restrictions:

Item (*), From Site (*), To Site (*), From Location (*), To Location (*)

Item (!22-200*), From Site (*), To Site (*), From Location (*), To Location (*)

For each role where these restrictions are defined, they prevent maintaining records and creating receipts and shipments for items that begin with 22-200; records, receipts, and shipments can still be maintained or created for all other value combinations.

Sales Order Shipment Restrictions View

Summary Panel

The Summary panel displays information about the role affected by the sales order shipment restrictions. This field is read-only and stays in view even when you scroll down the page.

Main Panel

Role

Enter the name of a role defined in your system and assigned to users. This is a mandatory field.

Restrictions Panel

Add or edit the records directly in the grid or select details to open the Restrictions Detail View. All fields are mandatory.

Item

Enter the inventory item defined in Items. This is a mandatory field.

Site

Enter the originating or shipping site that is part of the definition for this update restriction. This field is mandatory.

Location

Enter the originating or shipping location that is part of the definition for this update restriction. This field is mandatory.

Creating Sales Order Shipment Restrictions

1. Go to **Sales Order Shipment Restrictions**.

2. Click the **New** button to add a new record.
3. Complete the fields described in the Sales Order Shipment Restrictions view on page 3125.
4. Click **Save** to continue.

Modifying Sales Order Shipment Restrictions

1. Go to **Sales Order Shipment Restrictions**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Sales Order Shipment Restrictions

1. Go to **Sales Order Shipment Restrictions**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Inventory Transfer Restrictions

- **Inventory Detail** > Transfer
- **Inventory Detail** > Bulk Transfer
- **Serials** > Transfer Pack
- **Serials** > Bulk Transfer Pack

For each item, restrictions are based on combinations of values for From and To sites, locations, and inventory statuses. Restrictions apply to only the domain where they are defined; they allow or prevent the creation of transactions. If no restrictions are defined, all roles with access to these programs can create transactions for any item.

You should define inventory transfer restrictions as part of a general security model, which includes role-based access security, site security, and field security. The system applies site and field security before update restrictions.

Creating even one restriction has broad effects.

- Defining a restriction that allows a role to create transactions for items with some combination of values prevents all roles from creating transactions for any other combinations. Additional restrictions must be defined in order to allow the specified role to create transactions for any other combinations and for other roles to create any transactions at all.
- Defining a restriction that prevents one role from creating transactions for items with some combination of values prevents all roles from creating transactions for all other combinations. Additional restrictions must be defined in order to allow any role to create transactions for any combinations.

General Rules for Update Restrictions

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in **Inventory Detail Restrictions**, for example, then **Inventory Detail** is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a restriction in **Inventory Detail Restrictions** has no effect on **Sales Orders** because sales order restrictions are specified in **Sales Orders Restrictions**.
- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.

- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.
- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are set up. If a transaction matches a field value that is excluded for a role, for example, Site !10000—the system fails the transaction without considering the values of the fields lower in the setup screen.
- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item, site, location and status values can be entered using wild cards. Use the asterisk (*) and exclamation point (!) as inclusion and exclusion wild cards respectively:

* indicates access to all

string* indicates access to all beginning with string

string indicates access to that string only

!string* indicates access is restricted from all beginning with that string

!string indicates access is restricted from that string only

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

Security Example 1

For the specified role, one restriction is defined for a combination of values:

Role (Stock), Item (22-100), From Site (10000), To Site (11000), From Location (100), To Location (200), From Status (20), To Status (20).

Only users with the Stock role can create transactions for this combination of values. This role cannot create transactions for any other combinations; no other role can create transactions for any combinations at all.

Security Example 2

For the specified role, restrictions are defined for multiple items:

Item (22-1*), From and To Site (10000), From and To Location (100), From and To Status (*)

Item (22-2*), From and To Site (11000), From Location (100), To Location (200), From and To Status (*)

With these restrictions defined, only the specified role can create transactions for items with any status where:

From and To Site is 10000, From and To Location is 100, and item numbers begin with 22-1

From and To Site is 11000, From Location is 100, To Location is 200, and item numbers beginning with 22-2

No other role can create transactions for any combinations at all.

Security Example 3:

When users can be prevented from creating transactions for items with only a few combinations of values, it is best to first define restrictions that allow all changes; then define additional restrictions for the small set of value combinations where changes are prevented.

For each role, set access to all (*) for all items, sites, locations, and statuses; then set the further restrictions:

Item (*), From Site (*), To Site (*), From Location (*), To Location (*), From Status (*), To Status (*)

Item (!22-200*), From Site (10000), To Site (10000), From Location (100), To Location (200), From Status (*), To Status (*)

For each role where these restrictions are defined, they prevent transfers from location 100 to 200 for items that begin with 22-200 in site 10000. Transfers are still allowed for items with all other value combinations.

Inventory Transfer View

Summary Panel

The Summary panel displays the information about the role affected by the inventory transfer restrictions. This field is read-only and stays in view even when you scroll down the page.

Main Panel

Role

Enter the name of a role defined in your system and assigned to users. This is a mandatory field.

Restrictions Panel

Add or edit the records directly in the grid, or select details to open the Restrictions Detail View. All fields are mandatory.

Item

Enter the inventory item defined in Items. This is a mandatory field.

From Site

Enter the originating site that is part of the definition for this update restriction. This is a mandatory field.

To Site

Enter the receipt or receiving site that is part of the definition for this update restriction. This is a mandatory field.

From Location

Enter the originating or shipping location that is part of the definition for this update restriction. This is a mandatory field.

To Location

Enter the receipt or receiving location that is part of the definition for this update restriction. This is a mandatory field.

From Status

Enter the original or starting inventory status code that is part of the definition for this inventory restriction. This is a mandatory field.

To Status

Enter the destination or target inventory status code that is part of the definition for this inventory restriction. This is a mandatory field.

Creating Inventory Transfer Restrictions

1. Go to **Inventory Transfer Restrictions**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Inventory Transfer Restrictions view on page 3129.
4. Click **Save** to continue.

Modifying Inventory Transfer Restrictions

1. Go to **Inventory Transfer Restrictions**.
2. Select the row of your interest, and click **Edit** or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Inventory Transfer Restrictions

1. Go to **Inventory Transfer Restrictions**.
2. Select the row of your interest and click **Edit** or double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Manufacturing Logistics

Manufacturing Logistics manages the organization, transportation, and storage of materials and finished products within a manufacturing plant.

Production Picklists

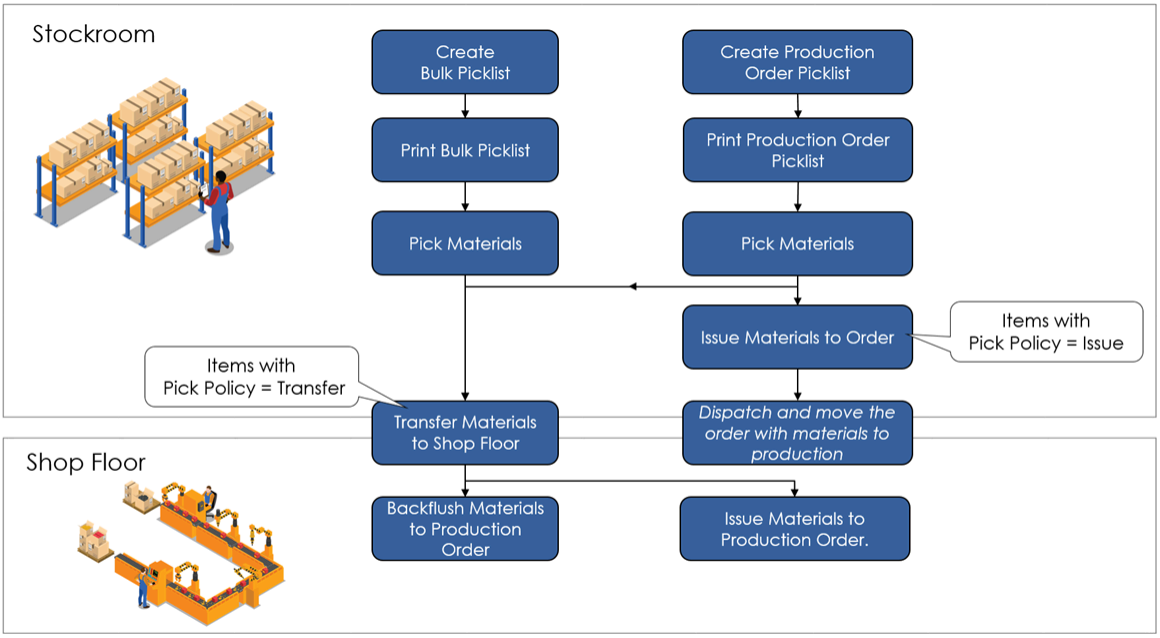
This browse displays all detailed information associated with production picklists, such as:

- **Picklist information**. It displays the Picklist Number, Picklist Seq, and the Picklist Type.
- **Production Order information**. It displays the associated Production Order, Production Order ID, the Order Type, and the Issue Date.
- **Item information**. It displays detailed information about the item to be picked such as the Item Number, Site, Location, Lot/Serial, Reference, and whether the item lot is Conforming or Non-Conforming.
- **Transfer information**. It displays information about where the picked inventory will be transferred to such as the Production Line, Work Center, Operation, and Destination Location.
- **Picking status information**. It displays the Quantity Open, Quantity Picked, and the Quantity Short.

The Production Picklists browse also contains the following actions that enable users to manage the movement of production order components:

- **Pick**. Use this action to pick items on a picklist, which are needed from inventory. For more information, see Pick Action on page 3140.
- **Unpick**. Use this action to undo a physical pick. For more information, see Unpick Action on page 3151.
- **Transfer**. Use this action to transfer components that have been picked on a picklist and move them from the stocking location to the shop floor. For more information, see Transfer Action on page 3145.
- **Issue**. Use this action to issue components that have been picked on a picklist from the stocking location to be used for production orders. For more information, see Issue Action on page 3135.

The following flow chart displays the process of creating and printing picklists, picking the items required for production, transferring and moving the items to the shop floor, and then backflushing and/or issuing the items to the production order.

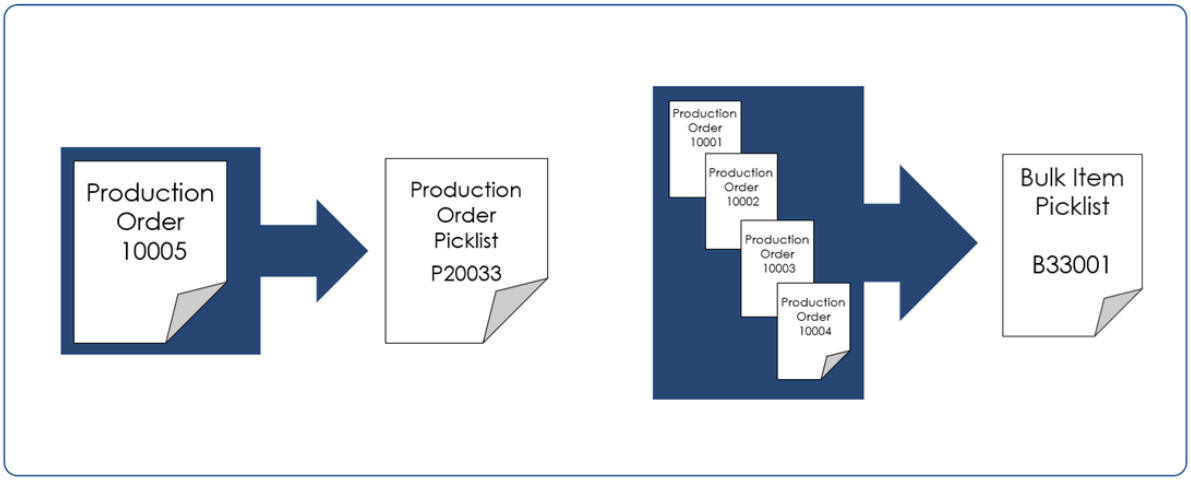


Picklist Overview

A picklist is a list of components that directs you to pick, prepare, and optionally transport materials from the stockroom to support production orders and production activities on the shop floor.

There are two kinds of production order picklists:

- **Production Order Picklists**. Lists the materials for a single production order.
- **Bulk Item Picklists**. Lists the materials to be transferred to the shop floor for one or more production orders.

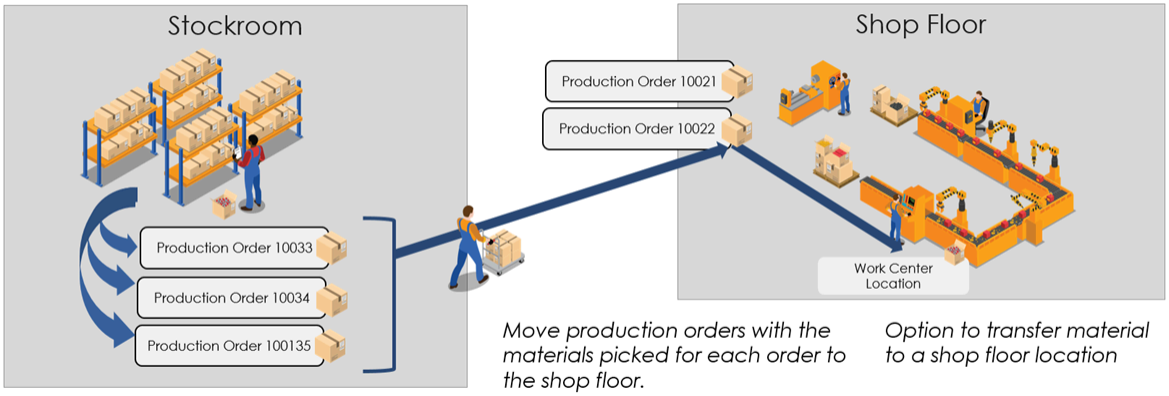


Before you create picklists and begin picking, you must set the item's pick policy. For more information, see Items on page 635.

Production Order Picklists

Production order picklists direct you to supply materials for a production order; however, production order picklists are different from bulk item picklists. Production order picklists:

- List the materials for a single production order.
- Are appropriate when production is scheduled, dispatched, and controlled using production orders.
- Are appropriate when production is set according to contract requirements for a customer.
- Used when paper-based systems are required to document production, as is the case for life sciences.
- Used when engineering specifications impact production order bill components or formulation.
- Let you optionally issue or backflush to the order before or after the order and picked quantities are dispatched to production.
- Let you optionally transfer to a shop floor location.



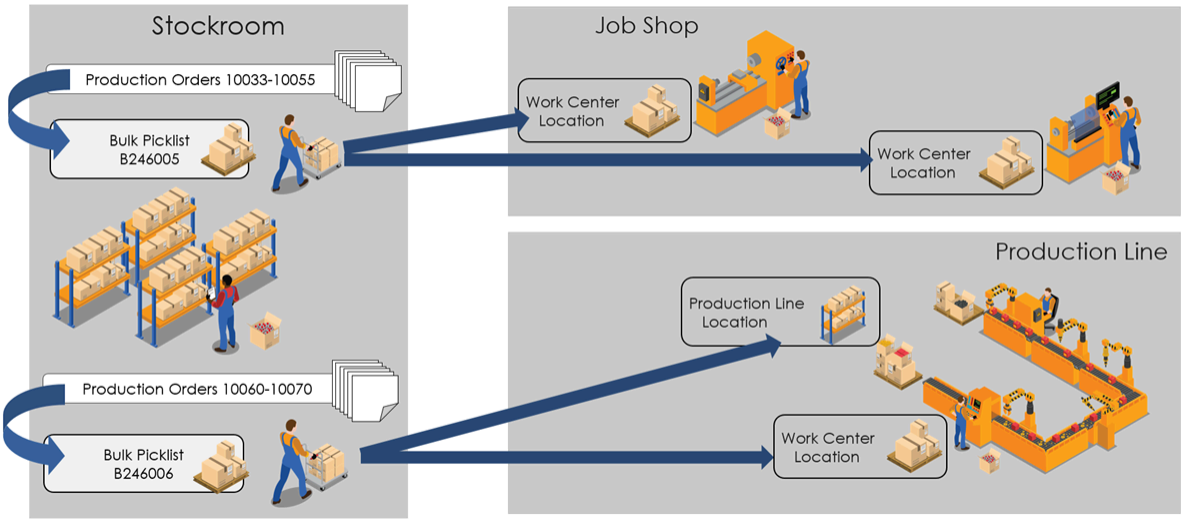
Move production orders with the materials picked for each order to the shop floor.

Option to transfer material to a shop floor location

Bulk Item Picklists

Bulk item picklists are independent from production order picklists, release, and order dispatch. Bulk item picklists:

- List the materials to be transferred to the shop floor for one or more production orders.
- Can be for a group of items not necessarily representing an entire, single production order.
- Transfer large quantities of low-cost, bulk materials to the shop floor for either production order or repetitive production.
- Are appropriate when production is supported by paperless systems and/or procedures.



Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

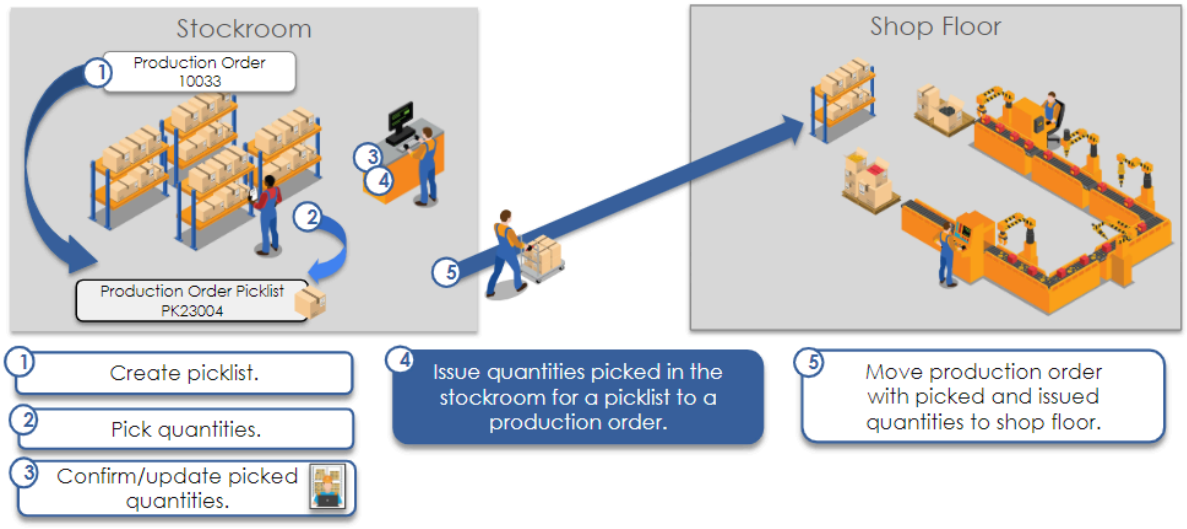
Issue Action

The costs associated with the issues are recorded against the appropriate discrete or cumulative order. The system automatically calculates only items that have Pick Policy set to Issue.

As components are issued, the system removes detail allocation for the order and for the picklist. The system also decreases the component quantity required for planning.

Once issued, the system creates a picklist history record.

The following graphic displays the steps that are performed before and after issuing components from the stocking location.



Using the Issue Action

Follow these steps to issue components on a picklist from a stocking location:

1. In the **Production Picklists** browse, select the picklist that contains the components to be picked. Then select Issue from the Action menu.
2. In the Main panel, verify the Effective Date for this transaction.
3. In the Issue panel, specify the following:
   a. Select or clear the Issue by Operation checkbox to view the components according to the operation number of the Production Order Routing.
   b. Select or clear the checkbox for each component of the grid.
   c. Specify the quantity of the component to be issued.
4. Once the correct components have been selected, select Submit to issue the components to a production order.

System Results after the Issue Action

When components are issued, the system produces the following results:

- Decreases the component quantity required on the production order.
- Removes the detail allocation for the order and picklist.
- Creates a picklist history (Type = Issue).
- If all open quantities for a component are picked, the component is removed from the picklist.
- If all inventory on the picklist has been issued, the system removes the picklist.

- When issuing packs, the system creates a PCK-ISS transaction for each pack. If all the contents of the packs are issued, the pack's stage changes to Decommissioned.
- When issuing serialized items, the system creates a SER-ISS transaction and changes the stage to Consumed.
- If the inventory is supplier consigned inventory, RCT-PO/CN-ISS transactions are created when Transfer Ownership is set to Yes.

Issue Validations

When the components are issued and you click Submit, the system verifies that the quantity being issued is not more than the quantity available if overissue is not allowed.

Main

Site

Displays the site where the inventory is issued from.

Picklist

Displays the picklist number to be issued to the shop floor location.

Picklist Sequence

Displays the picklist sequence number associated with the items to be issued. Picklist sequence numbers are generated by the **Production Orders** > Bulk Item Picklist Calculation, Allocate, or Release actions. When the Picking Maximum value for a component is reached, the system creates multiple sequences.

Sequence numbers are used when a requirement must be met with multiple issues, often because there is limited space at the work center. The picklist shows the total requirement; the sequence amount is the amount issued at any one time.

Note Use Sequence zero (0) to represent a shortage of component quantity.

Picklist Type

Displays whether the picklist is either an Order or Bulk type picklist. If the Picklist Type is Order, then this picklist is for a specific order. If the Picklist Type is Bulk, then the picklist is for multiple orders.

Production Order

Displays the production order associated with the picklist. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

ID

Displays the production order ID associated with the picklist. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Parent Item

Displays the parent item in this product structure or formula. The parent item must be either an item defined in **Items** or a predefined formula code.

Product structures and formulas are entered as parent/component relationships. A parent item may be a finished product or some intermediate item. For example, a parent item may be sunglasses and the component items may be lens and frame; or the parent item may be frame and the component items may be arms, basic frame, hinge, and screws.

A parent item may also be a BOM code, which allows one structure to be set up and used to make multiple items or one item to have more than one structure. Each item and site can be assigned a BOM code indicating how the item is normally made there. BOM code defaults to the item number.

At each level of the product structure or formula, the component items include only those items used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another.

Parent/component relationships are used throughout the system for manufacturing planning and control. Both parent and component items can be used to select information to appear on a variety of reports and inquiries.

Production Line

Displays the production line where the picked inventory is issued to. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Issue

The Issue panel contains a grid that allows you to specify which picked components are to be issued. By default, the grid is populated with all the picked components on the picklist that have Pick Policy = Issue. You can also use the Issue by Operation field to filter the grid by a specific operation.

When transferring non-serialized inventory (loose items), you can update the Issue Quantity or accept the default value. When issuing serialized inventory, the Issue Quantity cannot be updated, and you must issue the total quantity associated with the serial.

Issue (checkbox)

Specify which components are to be Issued by selecting the corresponding checkbox.

Serial

Displays the serialized item or pack to be issued.

Item

Displays the item to be issued.

Description

Displays the description of the item to be issued.

Operation

Displays the operation number of the production order routing.

Location

Displays the location where the items are being issued from.

Lot/Serial

Displays the lot/serial of the inventory being transferred.

Reference

Displays the reference number of the inventory being transferred.

Quantity Picked

Displays the quantity of the component previously picked for the production order.

Quantity Issued

Displays the quantity of components to issue for the selected production order picklist. You cannot enter a value greater than the quantity picked. If the value is zero (0), the component is not issued.

When selecting non-serialized inventory (loose items) in the grid, you can update the Quantity Issued field.

Quantity Required

Displays the total quantity of components required for the picklist sequence.

Note Verify components listed in the grid multiple times: the quantity required is replicated for each component.

UM

Displays the unit of measurement of the component being issued.

Pack Code

Displays the pack code of the component being issued.

Pack Code Description

Displays the corresponding pack code description of the component being issued.

Pick Action

When these components are picked, the system changes the status of the inventory to Picked. If a serialized item or pack is picked, the system changes the stage of the serial to Picked.

The Pick action supports both Order and Bulk type picklists. If the Picklist Type is Order, then this picklist is for a specific order. If the Picklist Type is Bulk, then the picklist is for multiple orders.

When a Bulk type picklist is selected from the browse and the Pick action is selected, then the Production Order, ID, Production Line, and Work Center fields in the Main panel are blank because the picklist is for multiple orders. If necessary, use the drill down to Production Picklists browse to see all the different production orders associated with that picklist and sequence.

Using the Pick Action

Follow these steps to pick inventory on a picklist:

1. In the **Production Picklists** browse, select the picklist that contains the components to be picked. Then select Pick from the Action menu.
2. In the Pick panel, click Pick All Allocated to populate the grid with all the items on the picklist or click New to add the items manually:
    - **Pick All Allocated**. If the Pick All Allocated button is selected, update the Pick Quantity value or accept the default value. All the items allocated to the picklist and sequence combination are defaulted into the grid. The inventory is allocated based on the item's allocation policy when the picklist is generated. All other fields are read only.
    - **Click New (manually)**. If you have clicked New to add the items to the grid manually, enter the Serial, Item, Location, Lot/Serial, Reference, and Pick Quantity information.
3. Once the correct pick information has been added to the grid, select Submit to complete the Pick transaction.

System Results after Pick Action

When components are picked, the system produces the following results:

- The Quantity Allocated is updated and reduced by the Quantity Picked.
- The Quantity Picked is updated and increased by the amount picked.
- On the **Production Picklists** browse, the Open Quantity is updated and reduced by the Pick Quantity.

- If a different lot/serial is picked other than what has been allocated, that lot/serial is shown to be associated with the picklist on the **Production Picklists** browse.
- When picking serialized items or packs, serial history records (PCK-CHS or SER-CHS) are created for each serial picked.
- The stage of the picked serial is changed to Picked.
- Picklist history records are created.

Note You can verify details of what was picked in Allocated Inventory Inquiry (3.18).

Picking Validations

When the components are picked and you click Submit, the system performs the following validations:

- Only items on the picklist and sequence combination are picked. If there are items that are not on the picklist, an error is displayed.
- When picking serialized items or packs, the serial must be in Active stage or Aggregated stage. If the serial is in Aggregated stage, the Master Serial must be in Active stage.
- All items or serials that are picked must be from the same site as the picklist.
- Only inventory available at the location can be picked. You cannot pick inventory if it is reserved for a different customer or if the inventory status of the inventory is not available.
- The sum of the Pick Quantity for an item is not less than the minimum pick quantity defined in **Items**.
- The sum of the Pick Quantity for an item is not more than the maximum pick quantity defined in **Items**.
- If a non-conforming lot is selected, the system prompts you to confirm that a non-conforming lot should be picked.

Main

Site

Displays the site where the inventory is to be picked. All items or serials that are picked must be from the same site as the picklist.

Picklist

Displays the picklist number for which inventory is to be picked.

Picklist Sequence

Displays the picklist sequence number to be picked. Picklist sequence numbers are generated by the **Production Orders** > Bulk Item Picklist Calculation, Allocate, or Release actions. When the Picking

Maximum value for a component is reached, the system creates multiple sequences.

Sequence numbers are used when a requirement must be met with multiple transfers, often because there is limited space at the work center. The picklist shows the total requirement; the sequence amount is the amount transferred at any one time.

Picklist Type

Displays whether the picklist is either an Order or Bulk type picklist. If the Picklist Type is Order, then this picklist is for a specific order. If the Picklist Type is Bulk, then the picklist is for multiple orders.

Production Order

Displays the production order associated with the picklist. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

ID

Displays the production order ID associated with the picklist. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Parent Item

Displays the parent item in this product structure or formula. The parent item must be either an item defined in **Items** or a predefined formula code.

Product structures and formulas are entered as parent/component relationships. A parent item may be a finished product, or some intermediate item. For example, a parent item may be sunglasses and the component items may be lens and frame; or the parent item may be frame and the component items may be arms, basic frame, hinge, and screws.

A parent item may also be a BOM code, which allows one structure to be set up and used to make multiple items or one item to have more than one structure. Each item and site can be assigned a BOM code indicating how the item is normally made there. BOM code defaults to the item number.

At each level of the product structure or formula, the component items include only those items used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another.

Parent/component relationships are used throughout the system for manufacturing planning and control. Both parent and component items can be used to select information to appear on a variety of reports and inquiries.

Destination Location

Displays the location where the picked inventory is to be delivered. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Production Line

Displays the production line where the picked inventory is to be delivered. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Pick

The Pick panel contains a grid that allows users to add the components or serials to be picked on the picklist and sequence combination. Click New to add a line in the grid and specify the serialized and/or non-serialized inventory to be picked.

If necessary, click Delete to remove any rows in the grid.

The Pick All Allocated button allows you to default all the items allocated to the picklist and sequence combination into the grid. The inventory is allocated based on the item's allocation policy when the picklist is generated. You can then modify the fields as needed.

Serial

Enter the serialized item or pack to be picked. The serial that is entered must be from the same site as the picklist.

When adding serialized items or packs to the grid, the serial must be in Active or Aggregated stage. If the serial is in Aggregated stage, the Master Serial must be in Active stage. The serialized item or pack must also contain the items on the picklist and sequence combination; otherwise, an error is displayed. When a serial is picked, all contents of the serial are picked and the Item or Pick Quantity cannot be updated.

When an external serial is entered in the grid, the system accepts the value, converts the serial to the internal serial, and updates the External Serial and Origin Code fields with the expected values based on the external serial entered.

Pack Code

Displays the pack code associated with the Serial.

Item

The item to be picked:

- **Picking non-serialized items**. When adding non-serialized inventory to the grid, enter the item to be picked. All items that are picked must be from the same site as the picklist. Only items on the picklist and sequence combination can be picked. If you enter

an item that is not on the picklist and sequence combination, an error is displayed.

- **Picking serialized items or packs**. When adding serialized items or packs to the grid, this field is read only and displays the item associated with the serial.

Only inventory available at the location can be picked. You cannot pick inventory if it is reserved for a different customer or if the inventory status of the inventory is not available.

Description

Displays the description of the item to be picked.

Location

Enter the location where the non-serialized inventory is to be picked from. When picking serialized items or packs, this field is read only and displays the location of the serial to be picked.

If the Pick All Allocated button is selected, this field is read only and displays the location where the serialized or non-serialized inventory will be picked from.

Lot/Serial

Enter the item's lot/serial to be picked.

If the Pick All Allocated button is selected, this field is read only and displays the lot/serial associated with the item to be picked.

Reference

Enter the reference information associated with the item to be picked.

Pick Quantity

Enter the quantity of the component items to pick. When picking serialized items or packs, the Pick Quantity cannot be updated.

When the Pick Quantity is less than the Picking Minimum value or greater than the Picking Maximum value as defined in **Items**, the system displays a warning message.

Open Quantity

Displays the quantity of items that have not been picked on the picklist. When items are picked, the Open Quantity is updated and reduced by the Pick Quantity.

UM

Displays the unit of measure associated with the item to be picked.

Result

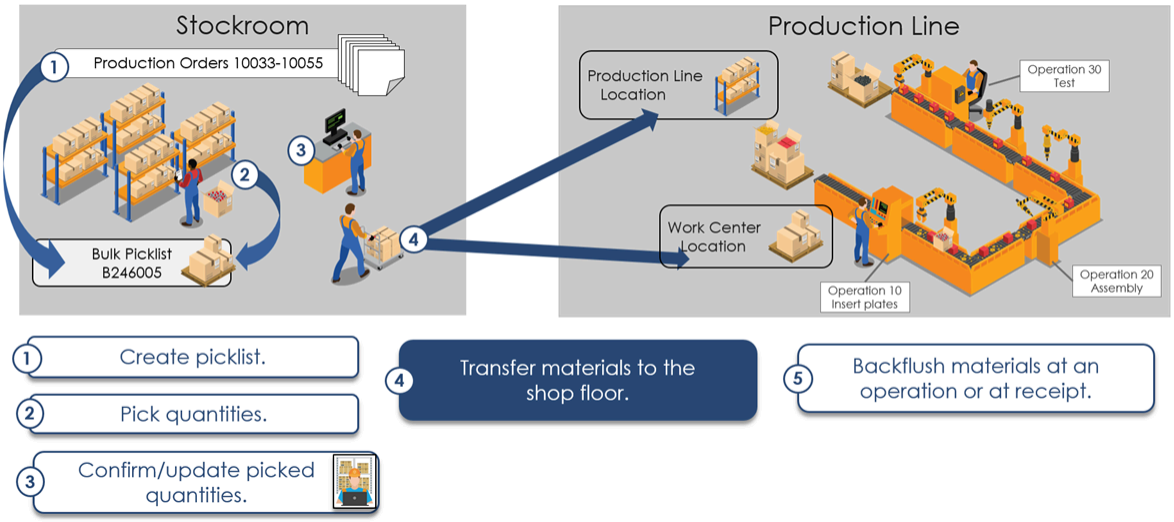
Displays whether the component lot being picked conforms or does not conform to the associated Production Order Component Profile,

the Item Profile, or the Item-Site Profile. If you pick non-conforming components, the system prompts you to confirm.

Transfer Action

The Transfer action supports both Order and Bulk type picklists.

The following graphic displays the steps that are performed before and after transferring picked inventory.



When performing the transfer action, the item's Pick Policy, Allocation Policy, and the Transfer Allocation Policy affect the following:

- **Pick Policy**. Determines whether it is transferred or moved with an order.
- **Allocation Policy**. Determines when detail allocations are created.
- **Transfer Allocation Policy**. Determines whether detail allocations are dropped or retained after a transfer has been completed.

For more information about an item's Pick Policy, Allocation Policy, or Transfer Allocation Policy, see Items on page 635.

Using the Transfer Action

Follow these steps to pick inventory on a picklist:

1. In the **Production Picklists** browse, select the picklist that contains the components to be picked. Then select Pick from the Action menu.
2. In the Main panel, specify the following:
   a. Select or clear the Cancel Untransferred Picklist Quantity checkbox to determine how the system handles the remaining quantities from partial transfers.
   b. Select or clear the Use To Location Status checkbox to determine which inventory status to use when the inventory status of the items being transferred differs from the default inventory status at the transfer-to location.

c. Enter the general ledger (GL) Effective Date for this transaction.

3. In the Transfer panel, specify the items and item quantities to be transferred:
   a. Specify which components will be transferred by selecting the corresponding checkbox.
   b. Update the Transfer Quantity or accept the default value. When transferring serialized inventory, the Transfer Quantity field is read only.
   c. If necessary, select or clear the Cancel Untransferred Picklist Quantity checkbox for individual line items in the grid.
4. Once the correct transfer information has been entered, select Submit to complete the Transfer transaction.

System Results after Transfer Action

When components are transferred, the system produces the following results:

- When the system transfers inventory to the To location, the system checks the Transfer Allocation policy (Drop or Keep) defined in **Items** to determine whether to keep or drop the allocation:
  - **Transfer Allocation Policy = Drop**. When the Transfer Allocation Policy is Drop, the system deletes the detail allocation after the transfer. These quantities no longer appear on the picklist.
  - **Transfer Allocation Policy = Keep**. When the Transfer Allocation policy is Keep, after the transfer, the system maintains the detail allocations for the inventory quantities that have been transferred to the To Locations. These quantities no longer appear on the picklist.
- When transferring non-serialized inventory, inventory transactions (ISS-TR and RCT-TR) are created for each item and lot/serial combination being transferred.
- When transferring serialized inventory, serial history records (PCK-MOV/SER-MOV) are linked to the ISS-TR transaction.
- When transferring consigned inventory, the system creates RCT-PO and CN-ISS transactions only when Transfer Ownership is set to Yes at the receiving location.

Transfer Validations

When the components are transferred and the you click Submit, the system verifies that the quantity being transferred is not more than the quantity available if overissue is not allowed.

Main

Site

Displays the site where the inventory is transferred from.

Picklist

Displays the picklist number to be transferred to the shop floor location.

Picklist Sequence

Displays the picklist sequence number associated with the items to be transferred. Picklist sequence numbers are generated by the **Production Orders** > Bulk Item Picklist Calculation, Allocate, or Release actions. When the Picking Maximum value for a component is reached, the system creates multiple sequences.

Sequence numbers are used when a requirement must be met with multiple transfers, often because there is limited space at the work center. The picklist shows the total requirement; the sequence amount is the amount transferred at any one time.

Picklist Type

Displays whether the picklist is an Order or Bulk type picklist. If the Picklist Type is Order, then this picklist is for a specific order. If the Picklist Type is Bulk, then the picklist is for multiple orders.

Cancel Untransferred Picklist Quantity

This checkbox determines how the system handles untransferred quantities:

- **Not Selected**. When this checkbox is not selected, any remaining untransferred quantities remain on the picklist. The untransferred quantities can be transferred at a future time.
- **Selected**. When this checkbox is selected, the quantity remaining is canceled from the picklist, but the system keeps the allocation for the order. Any picked inventory is reversed to allocated.

  Note The Cancel Untransferred Picklist Quantity checkbox is also available in the Transfer panel grid. When this checkbox is selected in the Main panel, the system automatically selects the Cancel Untransferred Picklist Quantity checkbox for each component listed in the grid. If necessary, users can then clear the checkbox for any component in the grid.

Use To Location Status

This checkbox determines how the system sets the inventory status when the inventory status of the items being transferred differs from the default inventory status at the transfer-to location:

- **Not Selected**. The system uses the current inventory status when there is no inventory for that item/lot/ref in the transfer-to location or if the status of the item/lot/ref on the transfer-to location is the same as the current inventory status.

  Note When this checkbox is not selected, the system displays an error when inventory for that item/lot/ref already exists in the

transfer-to location, and the status is different from the current inventory status.

- **Selected**. The system uses the default inventory status of the transfer-to location.

Production Order

Displays the production order associated with the picklist. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

ID

Displays the production order ID associated with the picklist. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Parent Item

Displays the parent item in this product structure or formula. The parent item must be either an item defined in **Items** or a predefined formula code.

Product structures and formulas are entered as parent/component relationships. A parent item may be a finished product, or some intermediate item. For example, a parent item may be sunglasses and the component items may be lens and frame; or the parent item may be frame and the component items may be arms, basic frame, hinge, and screws.

A parent item may also be a BOM code, which allows one structure to be set up and used to make multiple items or one item to have more than one structure. Each item and site can be assigned a BOM code indicating how the item is normally made there. BOM code defaults to the item number.

At each level of the product structure or formula, the component items include only those items used directly at that level. Multiple levels of a structure exist when a component in one relationship is a parent of another.

Parent/component relationships are used throughout the system for manufacturing planning and control. Both parent and component items can be used to select information to appear on a variety of reports and inquiries.

Production Line

Displays the production line where the picked inventory will be transferred to. If this is a Bulk type picklist, then this field is blank because this picklist is for multiple orders.

Effective Date

Enter the general ledger (GL) effective date for this transaction. The default is the system date.

The effective date determines when this transaction affects GL balances. The system checks that the transaction effective date is within an open fiscal period.

Transfer

The Transfer panel contains a grid that allows you to specify the picked components to be transferred. By default, the grid is populated with all the picked components on the picklist that have Pick Policy = Transfer.

When transferring non-serialized inventory (loose items), you can update the Transfer Quantity or accept the default value. When transferring serialized inventory, the Transfer Quantity cannot be updated. You must transfer the total quantity associated with the serial.

Transfer (checkbox)

Specify which components will be transferred by selecting the corresponding checkbox.

Serial

Displays the serialized item or pack to be transferred.

When an external serial is entered in the grid, the system accepts the value, converts the serial to the internal serial, and updates the External Serial and Origin Code fields with the expected values based on the external serial entered.

Pack Code

Displays the pack code associated with the Serial.

Item

Displays the item to be transferred.

Description

Displays the description of the item to be transferred.

From Location

Displays the location from which the inventory is being transferred.

From Lot/Serial

Displays the lot/serial of the inventory being transferred.

From Reference

Displays the reference number of the inventory being transferred.

From Inventory Status

Displays the inventory status code associated with the inventory quantity at the original location.

Inventory status codes determine whether specific inventory balances on hand are available for allocation to sales orders or production orders, are considered available by MRP, and are allowed to go negative.

Note If the From Inventory Status is different than the To Location Status, you can determine whether to change the inventory status by selecting or not selecting the Use To Location Status checkbox in the Main panel. This checkbox determines how the system sets the inventory status when the inventory status of the items being transferred differs from the default inventory status at the transfer-to location.

Transfer Quantity

The quantity of items to transfer:

- **Transferring non-serialized inventory (loose items)**. When transferring non-serialized inventory, enter the quantity of items to be transferred or accept the default value.
- **Transferring serialized items or packs**. When transferring serialized items or packs, the Transfer Quantity cannot be updated.

To Site

Displays the site where the inventory is being transferred.

To Location

Displays the location where the inventory is being transferred.

To Inventory Status

Displays the inventory status code associated with the inventory quantity at the target location.

Note If the From Inventory Status is different than the To Location Status, you can determine whether to change the inventory status by selecting or not selecting the Use To Location Status checkbox in the Main panel. This checkbox determines how the system sets the inventory status when the inventory status of the items being transferred differs from the default inventory status at the transfer-to location.

Cancel Untransferred Picked Quantity

This checkbox determines how the system handles untransferred quantities:

- **Not Selected**. When this checkbox is not selected, any remaining untransferred quantities remain on the picklist. The untransferred quantities can be transferred at a future time.
- **Selected**. When this checkbox is selected, the quantity remaining is canceled from the picklist, but the system keeps the allocation for the order. Any picked inventory is reversed to allocated.

  Note The Cancel Untransferred Picklist Quantity checkbox is also available in the Main panel. When this checkbox is selected in the Main panel, the system automatically selects the Cancel Untransferred Picklist Quantity checkbox for each component listed in the grid. If necessary, you can then clear the checkbox for any component in the grid.

Unpick Action

Users can unpick serialized or non-serialized items. When serialized components are unpicked, the system changes the stage of the serial from Picked to Active. When non-serialized items are unpicked, the inventory quantities are updated and the Open Quantity is increased by the Unpick Quantity.

Using the Unpick Action

Follow these steps to unpick inventory that has been picked:

1. In the **Production Picklists** browse, select the components to be unpicked and then select Unpick from the Actions menu.
2. In the Unpick panel, specify the following:
   a. Select which components are to be unpicked from the picklist by selecting the Unpick checkboxes. Only the lines that are selected are processed.
   b. If you are unpicking serialized inventory, click Submit to complete the transaction.

      Note When unpicking serialized inventory, the Unpick Quantity cannot be changed and you must unpick the serial with all its contents.

   c. If you are unpicking non-serialized inventory (loose items), update the Unpick Quantity or accept the default value. Click Submit to complete the transaction.

System Results after Unpick Action

When components are unpicked, the system produces the following results:

- For allocated inventory (Pick Policy = Detail Allocated), the Quantity Allocated is updated and increased by the Unpick Quantity.
- The Quantity Picked is updated and decreased by the Unpick Quantity.

- On the **Production Picklists** browse, the Quantity Open is updated and increased by the Unpick Quantity.
- If a different lot/serial was picked other than what was allocated, that lot/serial is shown to be no longer linked with the picklist on the **Production Picklists** browse.
- When unpicking serialized items or packs, serial history records (PCK-CHS or SER-CHS) are created to change the serial stage from Picked to Active for each serial picked.
- Picklist history records are created.

Note You can verify details of what was unpicked in Allocated Inventory Inquiry (3.18).

Unpick Action Validations

When the components are unpicked and you click Submit, the system performs the following validations:

- Only items on the picklist and sequence combination are unpicked. If there are items that were not picked on the picklist, an error is displayed.
- When unpicking serialized items or packs, the serial must be in Picked stage; otherwise, an error is displayed.
- When unpicking non-serialized items, the Unpick Quantity must not be greater than the Quantity Picked; otherwise, and error is displayed.

Main

The Main panel displays general information about the physical pick such as the Site, Picklist number, Picklist Sequence, Picklist Type, associated Production Order and ID, the Parent Item, the Destination Location, and the Production Line. This panel contains the same fields as the Main panel in the Pick action. For detailed field definitions, see Pick Action on page 3140.

Unpick

The Unpick panel contains a grid that allows users to select which components or serials should be unpicked.

Other than the Unpick Quantity field, this panel contains the same fields as the Pick panel in the Pick action. For detailed field definitions, see Pick Action on page 3140.

Unpick (checkbox)

Specify which components are to be unpicked by selecting the corresponding checkbox.

Unpick Quantity

The quantity of items to unpick:

- **Unpicking non-serialized items (loose inventory)**. When unpicking non-serialized items, this field is editable and you can enter a value equal to or less than the Quantity Picked. If you enter a value greater than the Quantity Picked, an error is displayed.
- **Unpicking serialized items or packs**. When unpicking serialized items or packs, the Unpick Quantity cannot be changed and you must unpick the serial with all its contents.

Cycle Counting Serialized Inventory

Overview

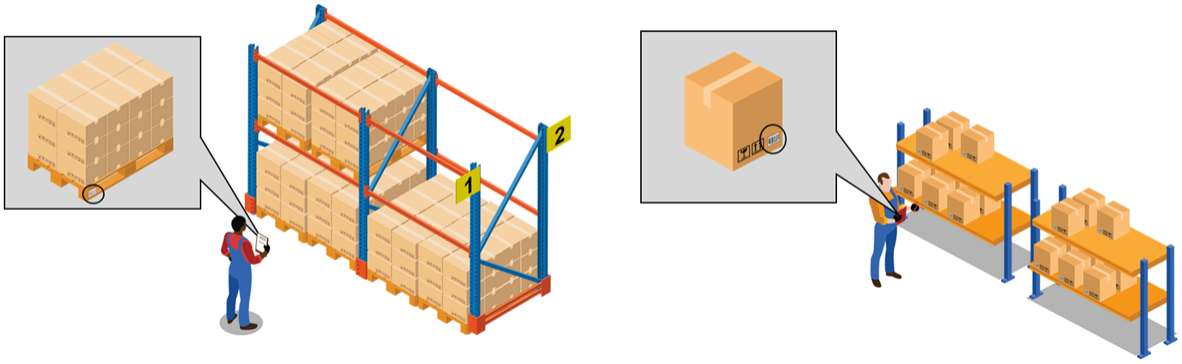
The Serial Cycle Count functionality allows users to cycle count serialized and non-serialized items. If you are using Serialization in your manufacturing and production process, it is recommended that you use the **Serial Cycle Count** browse to perform cycle counting on all your serialized and non-serialized inventory.

When you begin serial cycle counting, you count everything in inventory for a specified item/site/location combination. The cycle count batch that is created for the specified item/site/location combination can consist of a mixture of multilevel assembly packs, single-level unit packs, or loose serialized and non-serialized items. The system allows you to determine at which level of the packaging structure you will be counting. You can count closed top-level packs, open assembly packs, open unit packs, and/or loose serialized and non-serialized items.

Counting Closed Assembly Packs

When counting a closed assembly pack, you are counting the serial for the highest level in the pack structure (Level 1). For example, if you are counting an assembly pack, such as an Active pallet with Aggregated unit packs, you would count the serial for the pallet. If you are counting an Active unit pack that contains non-serialized items, you would count the serial for the unit pack.

When you count the top-level assembly pack, the system assumes that all inventory associated with the assembly pack is accounted for.

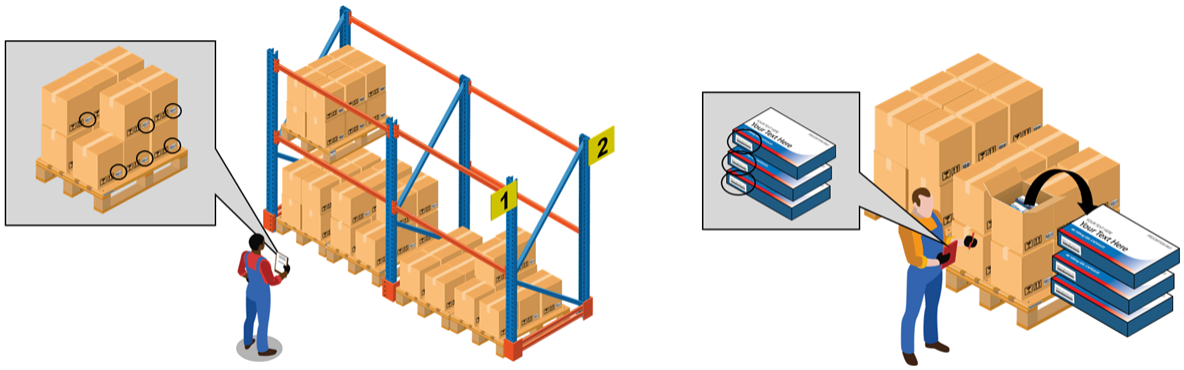


Counting Open Assembly Packs

When counting an open assembly pack, you are counting serials for the lower levels in the pack structure. For example, if you are counting an assembly pack with two levels, such as a pallet that contains unit packs, you would count the serials of the unit packs. Or, if you are counting an assembly pack with three levels, such as a pallet that contains unit packs

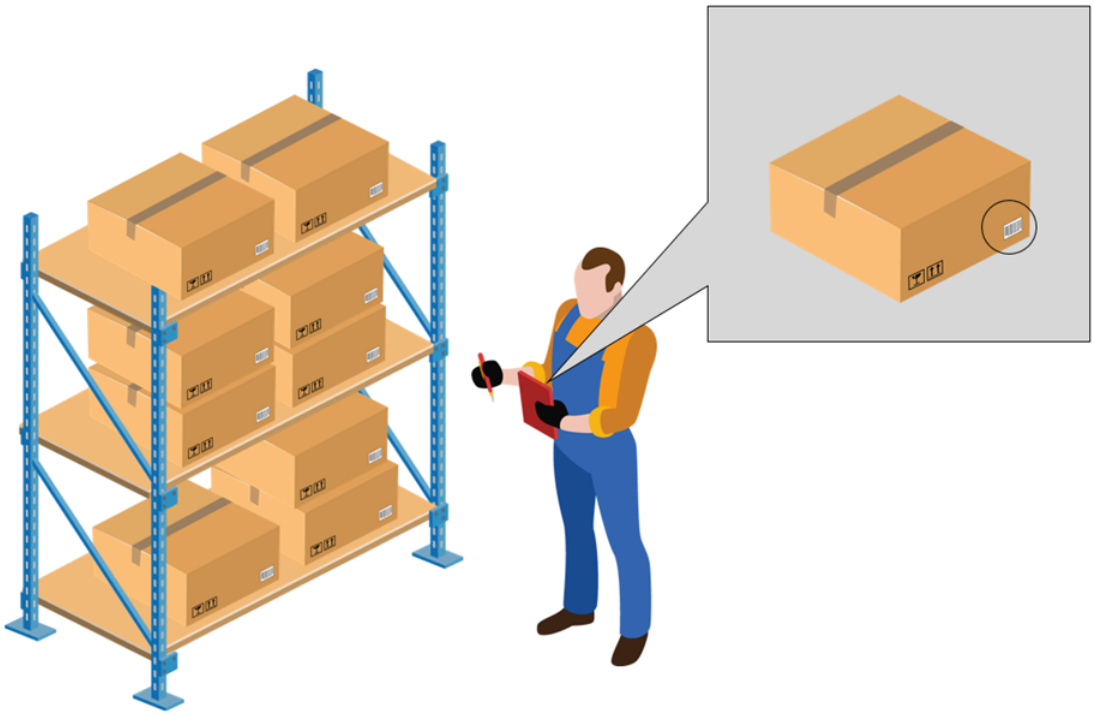
that contain serialized items, you could either count the serials of the Aggregated unit packs (Level 2) or the serials of the items inside the unit packs (Level 3).

When counting a multilevel assembly pack, if you count only some of the lower-level packs, the system assumes that the lower-level packs which were not counted are missing, and it adjusts those packs out of inventory.



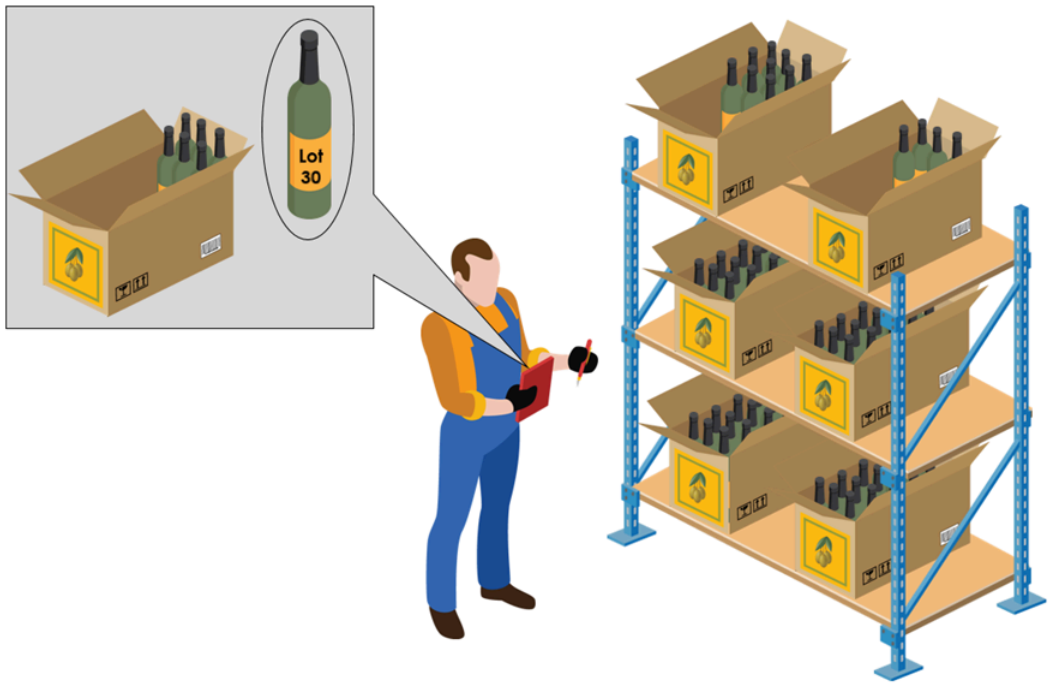
Counting Closed Unit Packs

When counting a closed unit pack, you are counting the serial for a pack that contains non-serialized items. When you count the serial of a unit pack, the system assumes that all inventory inside the pack is accounted for.



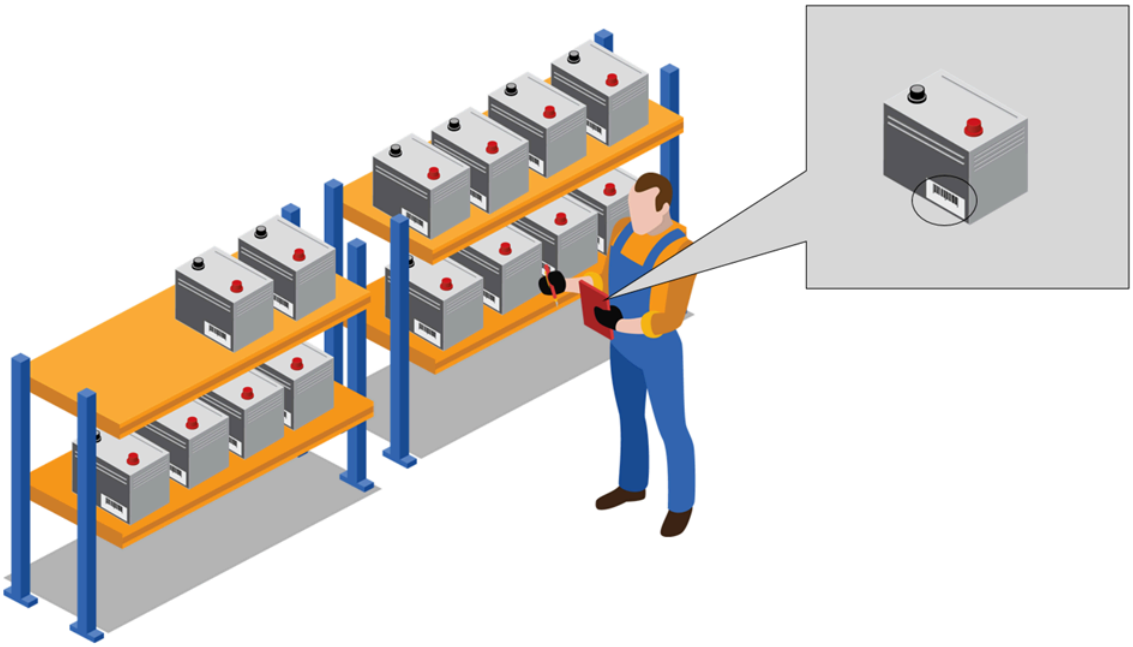
Counting Open Unit Packs

When counting an open unit pack, you are counting the quantity of non-serialized items in the unit pack. For example, if the Active unit pack contains bottles of olive oil, you would count the quantity of bottles in the unit pack.



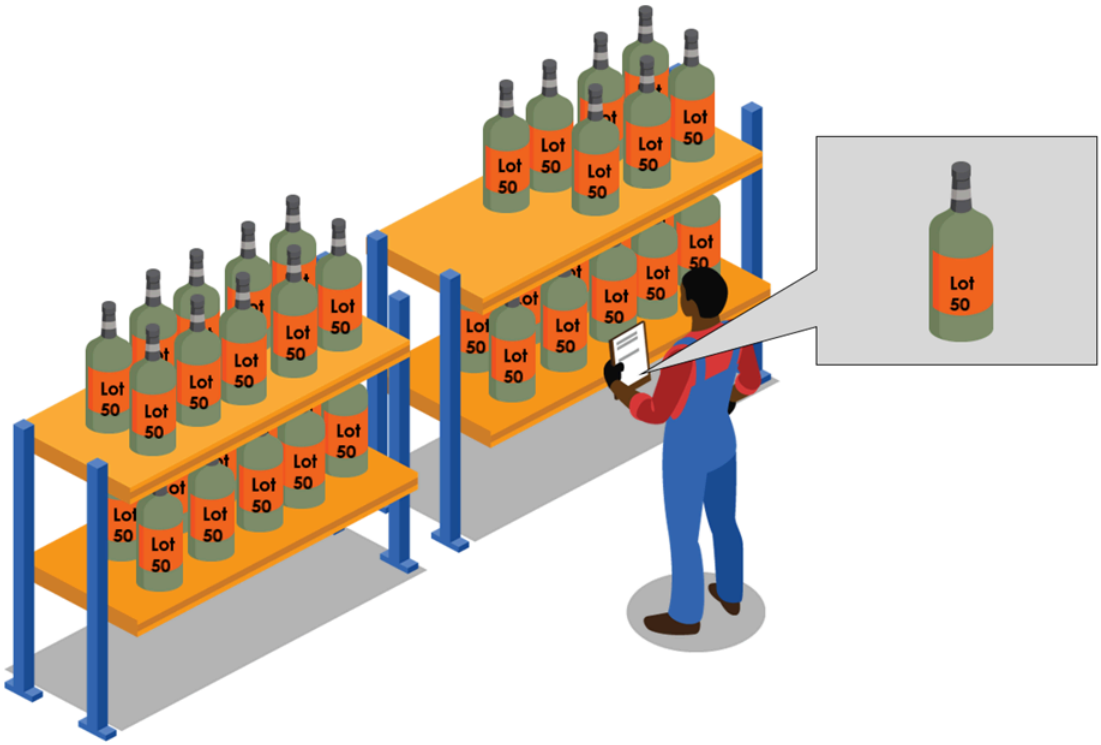
Counting Loose Serialized Items

When counting loose serialized items, you are counting the serials for the individual serialized items in the specified site and location. For example, if you are counting serialized batteries that are stored on a shelf, you would count each serialized battery individually.



Counting Loose Non-Serialized Items

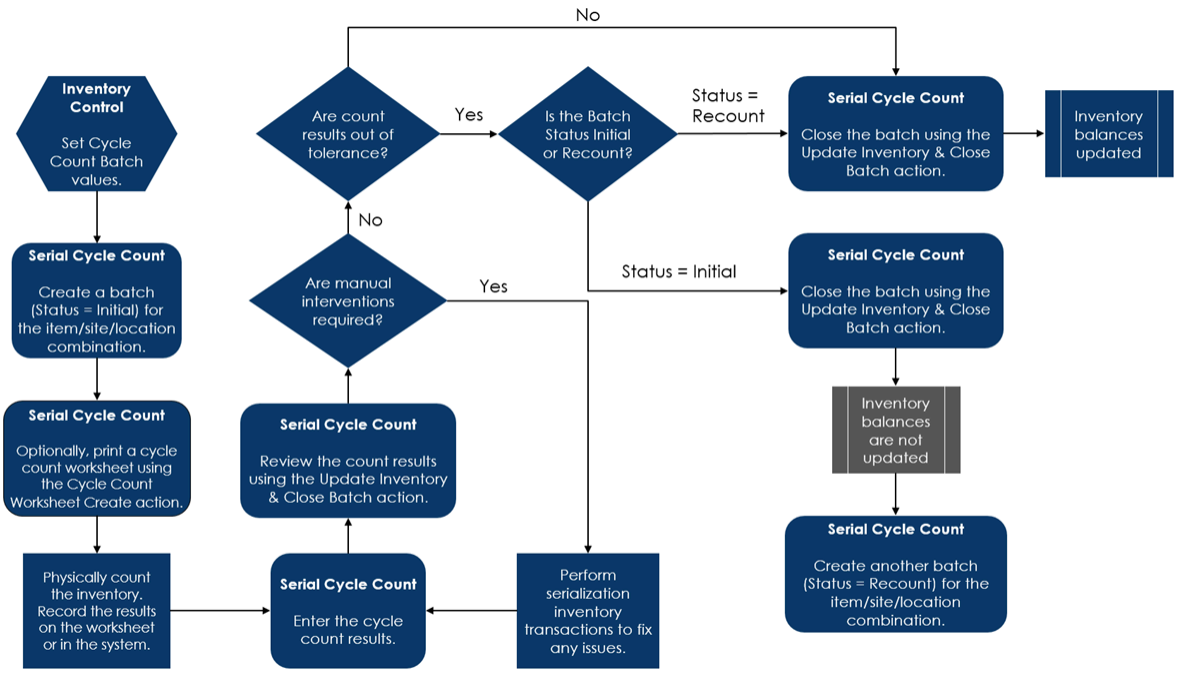
When counting loose non-serialized items, you are counting the quantity of items in the specified site and location. For example, if you are counting loose bottles of olive oil, you are counting the total quantity of loose bottles in that site and location.



Serial Cycle Count Process Flow

Serial Cycle Count provides all the functions necessary to perform the cycle count process.

Note Before cycle counting, it is necessary to configure the cycle count settings in **Inventory Control**. In the Inventory > Item Tolerances sub-panel, you enter the settings for Tolerance Method, Tolerance Percentage, and Tolerance Amount for A/B/C items. In the Serialization panel > Cycle Count Batch Active field, you set up the time allotted to enter the cycle count results and close a batch before the batch expires.



The basic process flow for performing a cycle count is as follows:

1. Create a batch for an item/site/location combination using **Serial Cycle Count**.
2. Optionally, print the cycle count worksheet using the **Serial Cycle Count** > Cycle Count Worksheet Create action.
3. Physically count the items in the batch.
4. Enter the cycle count results using **Serial Cycle Count**.
5. Review the cycle count results using the **Serial Cycle Count** > Update Inventory & Close Batch action. If there are issues with the results, take the necessary corrective actions.
6. Once there are no issues to be resolved, close the batch using the **Serial Cycle Count**> Update Inventory & Close Batch action.

Serial Cycle Count

This browse provides all the functions necessary to perform the cycle count process, including:

- Using the browse to create a cycle count batch (Initial or Recount) for serialized and/or non-serialized inventory.
- Using the Cycle Count Worksheet Create action to print a cycle count worksheet to record the item quantities that are counted. See Cycle Count Worksheet Create Action on page 2806.
- Using the Update Inventory & Close Batch action to review the counting results for a batch, to close the batch, and to update the

inventory based on the counts performed. See Update Inventory & Close Batch Action on page 3167.

- Using the Cycle Count Results action to view the cycle count data including the last count data, the count history, and the lot detail. See Cycle Count Results Action on page 2804.

This browse also displays detailed information associated with the serial cycle count batches:

- **Item Information**. It displays detailed information about the item that was counted such as the Item, Description, UM, Site, Location, whether the item is an A, B, or C item (ABC Class), and whether the item is serialized (Serial Control).
- **Inventory Information**. It displays detailed inventory information such as the Begin Location Balance, QOH Variance %, Annual Usage, and Annual Usage Variance.
- **Cycle Count Information**. It displays detailed information about the cycle count batch including when the batch was opened (Start Date Time), the date the last count was performed (Last Count Date), whether it is the Initial batch or a Recount (Status), and the current state of the batch (In Process).
- **Cycle Count Results Information**. It displays detailed information about the results of the cycle count such as the Quantity Counted, the Quantity Change, and the Amount Change.

Current State of a Cycle Count Batch

As you perform the cycle count process, the batch progresses through that following states, which are displayed in the In Process field:

- **Open** indicates that the cycle count batch is active for the item/site/location combination. In this state, users can enter the counts for the associated inventory.
- **Closed** indicates that the cycle count batch is complete and that inventory balances have been adjusted according to the count results entered. A batch becomes Closed after performing the Update Inventory & Close Batch action.
- **Expired** indicates that the cycle count results were not entered and/or the batch was not closed before the cycle count processing time expired. The amount of time given to enter the results and close a batch is set in the Cycle Count Batch Active field in the **Inventory Control** > Serialization panel.

Creating a Cycle Count Batch

Follow these steps to create a cycle count batch for an item in a specific site and location:

1. In the **Serial Cycle Count** browse, click New.
2. In the Main panel, set the Status to Initial or Recount:

- **Initial**. Select this option if this is the first cycle count for an item/site/location combination.
- **Recount**. Select this option if you are recounting an item/site/location combination.

Note If an Open cycle batch exists for the item/site/location combination (Initial or Recount), you cannot create another batch for the same item/site/location combination. When you try to save the batch, an error message prompts you to complete the Initial or Recount batch that is already open.

3. Enter the Item, Site, and Location information for the cycle count.
4. Click Save.

Entering Cycle Count Results

Serial Cycle Count allows more than one user to enter the count results for the same item/site/location combination. When a batch is created, the system allows multiple users to edit the same batch and enter the count results for different serials or item lot/serial/reference information. However, only one user can close the batch to indicate that the cycle count for the item/site/location combination is complete.

Follow these steps to enter the cycle count results for an item at a specific site and location:

1. In **Serial Cycle Count**, select the batch for the item/site/location combination and click Edit.
2. In the Count panel, you have the option of populating the grid by clicking the Autofill or New button:
   - **Autofill**. Click this button to automatically populate the grid with all of the serialized and non-serialized inventory for the item/site/location entered in the main panel. When this button is selected, the Count checkboxes are cleared by default. If necessary, click New to add additional serials or loose non-serialized items to the grid. If you are adding loose non-serialized inventory, only the item that was entered in the Main panel can be entered.
   - **New**. Click this button to manually enter the serials and/or loose inventory line by line. When this button is clicked, the Count checkbox is selected by default.

   Note The Autofill button can only be used once, before any rows are entered into the grid. Once data is added to the grid, this button is disabled.

   Note Make sure to select the Count checkboxes for the items that were counted because when you click Save, the system removes any items from the grid if the Count checkbox is cleared.
3. To enter the cycle count results, see the table below.

Counting Type	Autofill (Automatically Added)	New (Manually added)
Counting a Closed Assembly Pack	Select the Count checkbox for the highest level of the pack (Level 1) only.	Enter the serial for the highest-level pack (Level 1). All levels of the pack are added to the grid.
Counting an Open Assembly Pack	Select the Count checkbox for the lower level of the pack to be counted. Then, verify that the default Quantity Counted is correct or enter a new quantity if necessary. **Note** You cannot count an open pack that is in the Picked stage. You can only count the closed/top-level pack.	Enter the serial for the lower-level pack (Level 2). All levels of the pack are added to the grid. Then, verify that the default Quantity Counted is correct or enter a new quantity if necessary. **Note** You cannot count an open pack that is in the Picked stage. You can only count the closed/top-level pack.
Counting a Closed Unit Pack	Select the Count checkbox for the unit pack.	Enter the serial for the unit pack.
Counting an Open Unit Pack	Select the Count checkbox for the unit pack. Then, verify the default Quantity Counted is correct or enter a new quantity if necessary. **Note** You cannot change the Quantity Counted for a pack that is in the Picked stage.	Enter the serial for the unit pack. Then, verify the default Quantity Counted is correct or enter a new quantity if necessary. **Note** You cannot change the Quantity Counted for a pack that is in the Picked stage.
Counting Loose Non-Serialized Items	Select the Count checkbox for the loose non-serialized items. Then, enter the Quantity Counted.	Enter the item, lot/serial, and reference. Then, enter the Quantity Counted. **Note** Only the item specified in the Main panel can be entered.

4. After entering the cycle count results, click Save.

   Note Upon saving, the system updates the values for Quantity Counted, Quantity Change, Amount Change, QOH Variance %, and Annual Usage Variance.

Main

Status

Specify if the cycle count is Initial or a Recount.

- **Initial**. Select this option if this is the first cycle count for an item/site/location combination. This option creates an Initial cycle count batch with the In Process field set to Open.
- **Recount**. Select this option if you are recounting an item/site/location combination. This option creates a Recount cycle count batch with the In Process field set to Open.

Note If an Open cycle batch exists for the item/site/location combination (Initial or Recount), you cannot create another batch for the same item/site/location combination. When you try to save the batch, an error message prompts you to complete the Initial or Recount batch that is already open.

Item

Enter the item to be counted in the site and location.

Site

Enter the site where the item is to be counted.

Location

Enter the location where the item is to be counted.

Last Count Date

Displays the date the last cycle count was performed for the item/site/location combination.

Tolerance Method

Displays the Tolerance Method as set in the **Inventory Control** > Inventory panel.

Tolerance Percentage

Displays the Tolerance Percentage as set in the **Inventory Control** > Inventory panel.

Tolerance Amount

Displays the Tolerance Amount as set in the **Inventory Control** > Inventory panel.

GL Cost

Displays the GL Cost in the system.

Begin Location Balance

Displays the quantity on hand of the item/site/location combination.

Count

Count (check box)

Select this checkbox to indicate that the serial and/or loose inventory has been counted. By default, this checkbox is selected when you are adding items to the grid by clicking New. When you are adding items to the grid by clicking Autofill, this checkbox is cleared.

If an assembly pack is added to the grid, all of the levels of the pack are added. You do not need to select the Count checkbox for all of the levels of the pack:

- For closed packs, select the Count checkbox for the top-level pack (Level 1). The lower-level packs are counted automatically.
- For open packs, select the Count checkbox for the lower-level pack(s) being counted. If you are counting lower-level packs, you need to count all of the lower-level packs. Any lower-level packs not counted are adjusted out of inventory and the stage is changed to Inv Adjust.

Level

Displays the level in the packaging structure. If this is a loose serialized or non-serialized item, this field is blank.

Serial

The serial to be counted:

- If the pack was added to the grid by clicking New, enter the serial for the pack or serialized item to be counted. If an external serial is entered and there is a match to an internal serial, the system converts it to the internal serial and then populates the External Serial field with the external serial.
- If the pack was added to the grid by clicking Autofill, this field displays the serial and is read only.
- If this is loose non-serialized inventory, this field is blank.

Item

Displays the item to be counted.

If you are adding loose non-serialized items to the grid by clicking New, this field is editable and you can enter the item to be counted. Only the item specified in the Main panel can be entered.

Quantity Counted

The quantity of items that were counted at the specified site and location. Negative values are not allowed.

Depending on the type of pack or item being counted, this field is editable or read only:

- When counting the top level of an assembly pack (Level 1), this field is blank and read only.
- When counting Active unit packs, this field is editable. Update the Quantity Counted or accept the default value, which is the System Quantity. You cannot update the quantity for Picked unit packs.
- When counting a serialized item (loose or in a pack), this field is read only and defaults to 1.
- When counting loose non-serialized inventory, enter the Quantity Counted. The default value is 0.

UM

Displays the unit of measure of the item being counted.

System Quantity

Displays the quantity on hand in the system.

Lot/Serial

Enter the item's lot/serial to be counted.

This field can only be edited if it is a loose non-serialized item that was added to the grid by clicking New. If the non-serialized item was added by clicking Autofill, this field is read only. This field is also read only if it is a pack or serialized item.

Reference

Enter the reference information for the item to be counted.

This field can only be edited if it is a loose non-serialized item that was added to the grid by clicking New. If the non-serialized item was added by clicking Autofill, this field is read only. This field is also read only if it is a pack or serialized item.

Stage

Displays the stage of the serial being counted. If it is a loose non-serialized item, this field is blank.

Pack Code

Displays the pack code of the serial being counted. If it is a loose non-serialized item, this field is blank.

Pack Code Description

Displays the pack code description. If it is a loose non-serialized item, this field is blank.

Master Serial ID

Displays the master serial being counted. If it is a loose non-serialized item, this field is blank.

Master Serial Stage

Displays the serial stage of the master serial being counted. If it is a loose non-serialized item, this field is blank.

External Serial

Displays the external serial being counted. If an external serial is entered in the Serial field and there is a match to an internal serial, the system populates this field with the external serial and then populates the Serial field with the associated internal serial.

This field is blank if:

- No external serial is set up and associated with the internal serial.
- This is a loose non-serialized item.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Update Inventory & Close Batch Action

Using the Update Inventory & Close Batch Action

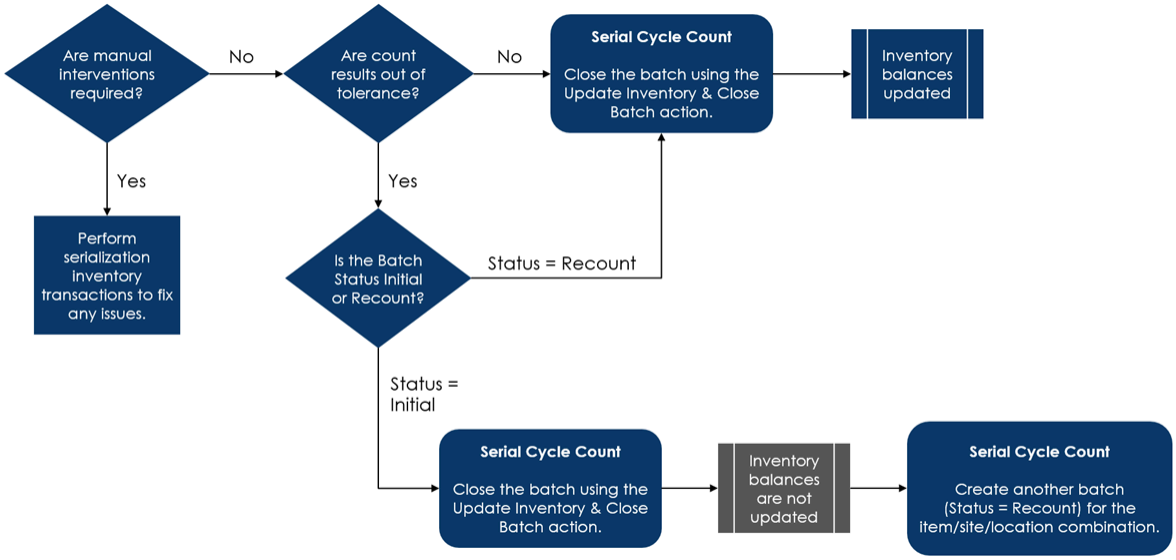
The Update Inventory & Close Batch action is used after the physical cycle count is complete and the results have been entered in the system. Follow these steps to review the cycle count results and close the batch:

1. In **Serial Cycle Count**, select the Open batch and then select the Update Inventory & Close Batch action.
2. The Update Inventory & Close Batch window opens. The system automatically populates the fields with all the necessary cycle count information.
3. In the Main panel, verify that the Credit Account and Effective Date are correct and enter any Remarks if necessary.
4. View the details of the cycle count results in the Counting History and Lot Detail panels. Check if any manual interventions are required and if the count results are within tolerance. If there are no issues with the cycle count results, proceed to the next step.

   If there are issues with the cycle count results, take the necessary corrective actions:

   - If there are rows in the Counting History grid with Manual Intervention = Yes, you must manually fix these issues before the batch can be closed by performing the appropriate serialization inventory transactions. In this scenario, if you click Submit before

these issues are manually fixed, the batch is not closed and the system displays an error.



5. Click Submit to close the batch.
   - For an Initial count, if the batch is in tolerance, the system updates the inventory balances according to the cycle count results. If the batch is not in tolerance, when the batch is closed, the inventory balances are not updated. Create a new batch to perform a Recount for the item/site/location combination.
   - For a Recount, regardless of whether the batch is in tolerance or out of tolerance, the system updates the inventory balances according to the cycle count results.

   Note If the cycle count batch expires before the batch is entered, reviewed, and closed, you must create another batch (Status = Initial/Recount) to perform the cycle count for the item/site/location combination.

System Results after Updating and Closing a Batch

When a cycle count batch is completed and closed, the system accepts the count results and changes the inventory balance to the quantity counted when:

- There are no problems to manually fix (Manual Intervention = No).
- The count matches the system quantity on hand.
- The difference in count results are within the predefined error tolerances. The system determines whether the counted inventory is out of tolerance based on the site, location, lot/serial, and reference combination.

Note If the count results are out of tolerance and the batch Status is set to Recount, the system accepts the count results and updates inventory balances. If the batch Status is Initial, inventory balances are not updated.

Scenarios When the System Automatically Fixes Issues

If you close a batch that has issues, the system automatically fixes the issues when:

- The stage of the pack being counted is Inv Adjusted or it is Aggregated on a Inv Adjusted pack. This means that the system considers the pack as missing because of a prior cycle count although it is physically in the current location and a count was entered for the pack during the current count.
    - If the counted serial is a master pack, the system reactivates the packs that contain the counted items.
    - If the counted serial is a lower-level pack, the system automatically removes it from the master pack and re-activates it.
- The system shows that the counted serial is located in a different site and location than where the count was performed. This can occur if the pack was physically transferred but the system did not record the transfer. If the stage of the pack is Active or Picked or Aggregated on an Active serial, the system automatically transfers it and performs a Pack Remove transaction if necessary.
- The pack is physically missing and is not counted but the system shows that the pack is in the site and location. If the pack's stage is Active, the system changes the stage to Inv Adjusted and performs a Pack Remove transaction if necessary.
- The pack is found but its parent pack is missing. This means that the system shows the pack is Aggregated on its master pack and in the current location but physically, only the unit pack can be found and the parent pack is missing. When the stage of the parent pack is not Picked, the system automatically removes the pack from its parent pack and does not consider the parent pack.

System Results for Mixed Packs

If the batch contains mixed packs, the system only considers the items associated with the batch when the batch is closed. You cannot enter counts for the non-batch item. When the batch is closed, the system does not update the inventory balances for the other items in the mixed packs.

For example, if there is a missing pallet that is not counted and it contains unit packs with different items, only the packs that contain the item associated with the batch are adjusted out of inventory when the batch is closed. In this scenario, the pallet remains Active and the unit packs that contain the other items are unaffected.

If there is a missing unit pack that is not counted and it contains different items, only the items associated with the batch are adjusted out of inventory when the batch is closed. In this scenario, the unit pack remains Active and the other items in the pack are unaffected. If there is only one remaining item in the unit pack, the pack changes from a phantom pack to a regular unit pack.

Main

The Main panel displays general information about the cycle count batch including the Item, Site, Location, Begin Location Balance, Tolerance Method, Tolerance Percentage, Tolerance Amount, Last Count Date, Status (Initial or Recount), and the Quantity Counted. These fields are automatically populated with the information from the batch when the Update Inventory & Close Batch action is selected. For field definitions, see Serial Cycle Count on page 3160.

This panel also displays important inventory accounting information such as the Credit Account, Debit Account, GL Cost, and Effective Date. It also contains a Remarks field, which allows you to enter any notes regarding the cycle count batch.

Remarks

Optionally, enter any information associated with the cycle count batch.

Credit Account

The general ledger (GL) credit account code used to track inventory discrepancies for items in this product line at this site and location. This defaults from the **Inventory Accounts** > Inventory Discrepancy Account field.

Debit Account

Displays the general ledger (GL) debit account code used to track inventory discrepancies for items in this product line at this site and location. This defaults from the **Inventory Accounts** > Inventory Discrepancy Account field.

Effective Date

The GL effective date for this transaction. The default is the system date.

Counting History

The Counting History panel displays the cycle count results for the batch. It allows you to easily identify if there are any issues with the cycle count, such as when the Quantity Counted is different than the Quantity in Pack or when serials or loose items are missing. It also displays if manual intervention is required before closing the batch and the cause of the issue.

This panel displays detailed information about each item and serial that were counted such as the Serial, Item, Description, Pack Code, Master Serial, Master Pack Stage, Lot/Serial, and Reference. When viewing this panel, the important fields to consider are the following:

Quantity In Pack

Displays the quantity of items in the pack. For loose non-serialized items, the value is 0 and for serialized items, the value is 1.

Quantity Counted

Displays the quantity of items that were counted. If the Quantity Counted for serialized items is out of tolerance, this field is highlighted in yellow.

Note When the Quantity Counted for loose non-serialized items is out of tolerance, there is no color coding added to this field. In this scenario, check the Quantity Change and Amount Change fields in the Lot Detail panel because they will be color coded to indicate any out of tolerance issues.

Cause

If there are issues with the cycle count results, this field displays the cause of the issue. If the issue requires manual intervention, this field is highlighted in red when Manual Intervention = Yes. The following are a list of causes that can be displayed:

- **Missing**. Indicates that an Active serial was not in the site and location during the cycle count and was not counted.
- **Picked Missing**. Indicates that a Picked serial was not in the site and location during the cycle count and was not counted.
- **Invalid Stage**. Indicates that the stage of the counted serial is Booked, New, Pending, Unused, Consumed, or Decommissioned.
- **Invalid Serial**. Indicates that the counted serial does not exist in the system.
- **Item Mismatch**. Indicates that the item counted in the pack does not match the item/site/location combination.

Manual Intervention

Displays if manual intervention is required. To enable users to easily see if manual intervention is required, this field is highlighted in red when it displays "Yes."

If the batch Status = Initial or Recount and there are rows in the Counting History grid with Manual Intervention = Yes, you must manually fix these issues by performing the appropriate serialization inventory transactions. In this scenario, if you click Submit before these issues are manually fixed, the batch is not closed and the system displays errors.

The following is a list of issues that require manual intervention and the identified Cause:

- The counted serial does not exist in the system (Cause = Invalid Serial).
- The counted serial is in the Booked, New, Pending, Unused, or Decommissioned stage (Cause = Invalid Serial).
- The item counted in the pack does not match the item/site/location combination (Cause = Item Mismatch).
- The serial is in the Picked stage but missing (Cause = Picked Missing).

From Site

When the system shows that the counted serial is located in a different site than the site where the count was performed, this field displays the site where the serial will be transferred from. When you click Submit, the system automatically transfers the pack to the correct site to fix the issue. This only applies to packs that are Active or Picked or Aggregated on an Active serial.

From Location

When the system shows that the counted serial is located in a different location than the site where the count was performed, this field displays the location where the serial will be transferred from. When you click Submit, the system automatically transfers the pack to the correct location to fix the issue. This only applies to packs that are Active or Picked or Aggregated on an Active serial.

Lot Detail

The Lot Detail panel displays additional cycle count data, which allows you to view the total amount of changes for each item lot. When the Quantity Counted is different from what is shown in the system, this panel allows you to easily view the total difference in item quantity and item value.

This panel displays information about the item lot, such as the Item, Description, Lot/Serial, and Reference. When viewing this panel, the important fields to consider are the following:

Begin Location Balance

Displays the quantity on hand in the system for the specified item lot when the cycle count was started.

Quantity Counted

Displays the quantity of items that were counted for the specified item lot.

Quantity Change

When the Quantity Counted is different from what is shown in the system, this field displays the difference in item quantity for the specified item lot.

To enable users to easily see if there are any issues with the cycle count results, this field is highlighted in red or yellow when the Quantity Change is out of tolerance:

- If the batch Status = Initial and the Quantity Change is out of tolerance, this field is highlighted in red.
- If the batch Status = Recount and the Quantity Change is out of tolerance, this field is highlighted in yellow.

Amount Change

When the Quantity Counted is different from what is shown in the system, this field displays the difference in item value for the specified item lot.

To enable users to easily see if there are any issues with the cycle count results, this field is highlighted in red or yellow when the Amount Change is out of tolerance:

- If the batch Status = Initial and the Amount Change is out of tolerance, this field is highlighted in red.
- If the batch Status = Recount and the Amount Change is out of tolerance, this field is highlighted in yellow.

Non-Sales Shippers

A non-sales shipper is a shipper that is generated from a non-sales transaction. It is a formal shipping document that accompanies the movement of goods, even when goods are merely transferred and not sold. Currently, users can generate a non-sales shipper using the **Inventory Detail** > Transfer action if a shipping group is set up in **Shipping Groups** with a valid inventory movement code (ISS-TR and/or CN-ISS TR).

Non-Sales Shippers provides the Confirm and Unconfirm actions, which allow users to change the Status of a non-sales shipper to Confirmed/ Unconfirmed. This browse also displays detailed information about the non-sales shippers that have been created, including:

- **Shipper Information**. It displays the Shipper number, the shipper Status (Confirmed or Unconfirmed), the shipping carrier (Ship Via), the Terms of Trade Point, and the Inventory Movement Code that generated the shipper.
- **Shipping Address Information**. It displays the Ship From site and Ship To site information (Ship To Name, City, State, and Country).

Confirm Action

Use the **Non-Sales Shippers** > Confirm action to change the Status of an unconfirmed non-sales shipper to Confirmed. When the shipper is confirmed, it cannot be edited.

Follow these steps to confirm a non-sales shipper:

1. In the **Non-Sales Shippers** browse, select the unconfirmed shipper and then select the Confirm action.
2. The Confirm Non-Sales Shipper window opens. If necessary, you can change the following information on the shipper:
    - Document Format
    - Language
    - Carriers
    - Ship Via
    - Terms of Trade Point
    - Mode of Transport
    - Carrier Shipment Reference
    - Vehicle ID
    - Payment Type
    - Carrier Account
    - Total Pallets

3. To add a note, in the Notes grid, select new. Enter a page number and the body of the note. To specify the information of the note, or select a master note, click Details on page 3176 to open the view.
4. To print the shipping document, select the Print Shipper checkbox.
5. Click Submit to save any changes and confirm the shipper.

Unconfirm Action

Use the **Non-Sales Shippers** > Unconfirm action to change the Status of a confirmed non-sales shipper to Unconfirmed.

Follow these steps to unconfirm a non-sales shipper:

1. In the **Non-Sales Shippers** browse, select the confirmed shipper and then select the Unconfirm action.
2. Click Submit to unconfirm the shipper.

Notes Grid Details

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the note you are working on, including the Ship-From, shipper number and page. These fields are read-only and stay in view when scrolling down the page.

Main

Page

Enter the number that identifies the note. This is a mandatory field.

Note If you leave the field blank and try to save the changes or leave the field, the system notifies you that the transaction is invalid.

Select Master Note

Use this button to select a **Master Note**from the lookup window. The master notes available in the lookup will be filtered based on the data entered in the Reference, Language, and Type fields.

Notes

Enter the body of the note attached to the non-sales shipper.

Reference

Enter or select a reference code from the Master Noteslookup window.

Language

Enter or select the language for your note from the Languages lookup window.

Note If you enter an invalid language and try to save the changes or leave the field, the system notifies you that the transaction is invalid.

Type

Enter or select the document type for your note from the lookup window.

Note If you enter an invalid type and try to save the changes or leave the field, the system notifies you that the transaction is invalid.

Planning

Planning manages the availability of items and shop floor resources for the manufacturing process.

Planning Control

MRP

Set up planning parameters for Material Requirements Planning (MRP) on the MRP panel.

MRP Horizon

MRP Horizon is the time period that MRP considers the requirements for material planning. Enter the period of time in calendar days. MRP only processes material requirements within this planning horizon, ignoring activities outside this horizon.

The horizon should be at least one day longer than the longest item cumulative lead time in the database.

If you change the MRP planning horizon, affected items are not automatically re-planned when you run net change material planning. Make sure that all items are re-planned by running material planning in regenerative mode.

Combine MRP DRP

Select this checkbox to indicate that material planning items can be planned using distributed requirements planning (DRP) functions.

Clear this checkbox if material planning items can only be planned using material planning functions.

When to run DRP and MRP depends on where in the structure your DRP items are. If you are distributing finished products, you can usually run DRP, followed by MRP. If you are supplying component items between sites, you can usually run MRP, followed by DRP. You would normally only need to run a combined MRP/DRP when you have DRP items at multiple levels of the product structure.

Summary Default

Specify the start day of the week used by all MRP summary reports and inquiries when displaying item requirements summarized by week.

Choose one from:

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

- Today

This approach allows the system to adapt to the needs of different countries. In most countries, the first day of the week is Monday.

Order Release Horizon

Enter the number of calendar days before a planned order's release date on which the Release Due For action message should appear.

MRP assigns Release Due For action messages to orders with release dates within this release horizon. If you set the release horizon to seven days, when you run MRP on Monday, all orders due to be released this week have a Release Due For action message.

This feature provides visibility for orders due to be released, giving your planner time to take appropriate actions.

The order release horizon should be based on your normal paperwork lead time and how often you run material planning. For example, if you run material planning weekly, you should set the order release horizon to at least seven days. If you run material planning daily, you can set it to 0 (zero).

Enable Operation Based Yield

This field determines how the system calculates yield for component items when product structures and routings are exploded in material requirements planning (MRP) programs, production orders, and configured products.

- If you clear this checkbox, the system uses the Yield % field associated with the parent item in item planning data or item-site planning data to calculate component requirements.
- If you select this checkbox, the system derives the yield percentage amount for components from operations on the parent item's routing. The Yield % field associated with the item is used for the parent item only, not the components.

Even when Enable Op Based Yield is selected, operation-based yield is only calculated for parent items for which Operation Based Yield is selected in either item planning data or item-site planning data.

Selecting this checkbox typically results in more accurate calculations and prevents over-planning of components. This outcome is especially apparent in a mature process, where yield percentages are highly predictable.

Maximum Planned Order

Set this field to a numeric value for the maximum number of orders Material Planning plans for an item/site combination. This setting is to prevent runaway calculations caused by, for example, an incorrect item

order quantity. The default is 1000. The value in this field is the default for the same-named field on the Site MRP Exception sub-panel.

Create Planned Order Routing

This field determines whether routing details are generated for planned orders created in MRP.

The default is unchecked so that no routing records are created. You can select the checkbox to create routing records.

Use AppServer

Specify whether the system uses a Progress application server to run MRP processes on a Symmetric Multiple Processor (SMP) computer. This field is related to the multi-thread mechanism.

To use an AppServer, you must also enter a valid value in AppServer Name and specify a default number of threads used in processing. Additionally, the AppServer must be configured correctly in Progress.

An AppServer can perform resource-intensive MRP calculations more efficiently by using multi-threading to distribute the processing load across multiple processors.

AppServer Name

When Use AppServer is selected, enter the name of the application server that is configured to run the MRP programs.

The value you enter must already be defined in AppServer Services. The associated record contains information that the system needs to use the application server that has been set up for MRP processing.

Default Number of Threads

When your system uses an AppServer for material planning processing, enter the default number of processing threads or agents that the AppServer can create. This value can be any integer up to 99.

This value defaults to the Number of AppServer Threads field in the material planning programs. You can update it, based on the overall load on your system, when you run material planning.

As a general rule, set this field to twice the number of processors your computer has. For example, if you have a dual-processor machine, set the field to 4. You can adjust the value based on how well your system and material planning perform.

Maximum Dynamic Time Fence

Specify the number of days that the system uses in determining a dynamically calculated time fence that controls whether material planning can re-plan orders.

When this value is greater than the Time Fence value specified for the item master data or item-site master data, the system adds Max Dynamic Time Fence to the current date, and sets the time fence as

the due date of the last order that falls within this period. In effect, this prevents scheduled receipts far in the future from affecting when new planned orders are created.

The default is 0 (zero). When this field is 0 or less than the value specified for the item, the system adds the item time fence to the current date and uses that as the time fence.

GRC Supply Data

Select this checkbox to make the system capture analysis data for the supply of items that have the order policy set to GRC.

When this checkbox is selected, the system creates pegging data, which is data that can be used by reporting tools for improvement analysis. The pegging data is created from an upstream GRC order to downstream (higher-level) planned orders and to production orders for items with the order policy set to GRC.

By default, GRC Supply Data is not selected.

The value in this field is the default for the same-named field on the Site MRP Exceptions sub-panel.

GRC Action Message

Select this checkbox to make the system generate messages for items that have Order Policy set to GRC. The system generates action messages for items planned using gross requirements.

The value in this field is the default for the same-named field on the Site MRP Exceptions sub-panel.

Site MRP Exceptions

You can access this sub-panel to define specific MRP rules for a particular site.

Creating a site exception record is not mandatory. You can create a site exception record only when you need the site control settings to be different from the general MRP control settings—that is, the defaults of the preceding fields.

On Site MRP Exceptions, you can check the following parameters:

- Site
- Description
- GRC Supply Data
- GRC Action Message
- Maximum Planned Order

When you select New to create an exception record for a site, the system automatically fills in the defaults that you have defined for the corresponding fields. You can manually update the record if necessary.

You can select Details to launch the Site MRP Exceptions hybrid view for further .

DRP

The DRP panel allows you to set controlling parameters for Distribution Requirements Planning (DRP).

MRP/DRP Combined

Select this checkbox to indicate that distributed requirements planning (DRP) items can be planned using MRP functions.

Clear this checkbox if DRP items can only be planned using DRP functions.

Use AppServer

Specify whether the system uses a Progress application server to run DRP processes on a Symmetric Multiple Processor (SMP) computer. This field is related to the multi-thread mechanism.

To use an AppServer, you must also enter a valid value in AppServer Name and specify a default number of threads used in processing. Additionally, the AppServer must be configured correctly in Progress.

An AppServer can perform resource-intensive DRP calculations more efficiently by using multi-threading to distribute the processing load across multiple processors.

AppServer Name

When Use AppServer is selected, enter the name of the application server that is configured to run the DRP programs.

The value you enter must already be defined in AppServer Services. The associated record contains information that the system needs to use the application server that has been set up for DRP processing.

Default Number of Threads

When your system uses an AppServer for DRP processing, enter the default number of processing threads or agents that the AppServer can create. This value can be any integer up to 99.

This value defaults to the Number of AppServer Threads field in the DRP programs. You can update the value based on the overall load on your system when you run material planning.

As a general rule, set this field to twice the number of processors your computer has. For example, if you have a dual-processor machine, set the field to 4. You can adjust the value based on how well your system and material planning perform.

Master Scheduling Workbench

Use the Master Scheduling Workbench panel to set defaults and other controlling parameters for the Planning and Scheduling Workbenches and for the Component Availability Check (CAC) browse collections.

You can set controls for the workbenches to work with Enterprise Asset Management (EAM) and set defaults for the CAC horizon and to enable the workbenches personalization architecture.

Component Availability Check Horizon

Enter the default for the number of days into the future within which the Component Availability Check (CAC) calculations consider MRP detail data. This setting applies to the CAC Collections and not to the workbenches.

Enable Additional Default Fields

Select this checkbox to enable additional default fields. If you select Enable Additional Default Fields:

- You can enter a list of additional default fields to display on the Production Order or Production Order Component panels.
- The system sends the additional default fields lists to the client.
- Various user exit programs are called.

Additional Default Display Fields

The Additional Default Display Fields sub-panel consists of the following parameters:

Production Order

Enter a list of additional default fields to display on the Production Order panels in the workbenches.

Production Order Component

Enter a list of additional default fields to display on the Production Order Component panels.

Item Site

Enter a list of additional fields, separated by commas, to display item-site planning data in the Planning and Scheduling Workbenches when you load data. For example, you can display a column of supplier data (ptp_vend field) in the MSW Schedule Grid.

The data displays in the MSW Schedule Grid and PSW Sequence Grid, the Production Order Browse in the top grids, the Product Structure On Hand panel, and the workbenches-embedded Production Order data.

Resource Item

Enter a comma-delimited list of additional default fields to display in the MSW Scheduling Grid. For example, to show resource items in

test; set the Resource Item field to resource_test, set the resource_test field value to test, and save the changes on the Master Scheduling Workbench panel. Then, start the Workbenches and load data to view the resource-item data in the new column.

Additional Default Edit Fields

Production Order

Enter a list of additional default fields to edit on the Production Order panels.

EAM

App Service Name

Enter the name of the AppServer service name recorded in AppServer Services.

If the entry created in AppServer Services has incorrect values or if other technical problems are encountered in trying to connect to or make calls to the EAM AppServer, the system generates exception data that is written to the log file. The exception data contains information about the operation being attempted and the failure reasons.

User

Enter a valid EAM user name. This value is used to log in to the EAM AppServer.

Password

Enter the EAM password. This value is used to log in to the EAM AppServer.

Production Scheduling Automation

The Production Scheduling Automation panel provides access for you to set defaults and exceptions for controlling parameters relevant to Production Scheduling Automation calculations.

After you set the fields on the Production Scheduling Automation panel, the defaults are automatically filled in for the corresponding fields when you are adding a new schedule type on the Leveling Details panel of the **Leveling Codes** view.

Rebuild Production Schedule

Determine whether to perform master production supply planning by default during the Production Scheduling Automation process.

When this checkbox is selected, master production supply planning is a default procedure during Production Scheduling Automation.

Production Smoothing

Determine whether to perform production order smoothing by default during the Production Scheduling Automation process.

When this checkbox is selected, production order smoothing is a default procedure during Production Scheduling Automation.

Production Order Line Allocation

Determine whether to perform production line allocation by default during the Production Scheduling Automation process.

When this checkbox is selected, allocating orders to production lines is a default procedure during Production Scheduling Automation.

Production Line Leveling

Determine whether to perform production line leveling by default during the Production Scheduling Automation process.

When this checkbox is selected, production line leveling is a default procedure during Production Scheduling Automation.

Smoothing Key

Specify a field name as the smoothing key. This value can then be used in the smoothing rule matrix to determine the smoothing rule.

For example, if you set Smoothing Key to Product Line, you can specify different smoothing rules for different product lines in the smoothing rule matrix.

Any of the following fields can serve as a smoothing key:

- Corp Commodity
- Design Group
- Item Group
- Item Status
- Item Type
- Product Line
- Purchase/Manufacture Code
- Replenishment Method
- Service Category
- Service Group

Note Once smoothing rule matrix records are created, the smoothing key cannot be changed.

Schedule Type Search Sequence

Specify the sequence that the system uses to search for the schedule type. Two options are available:

- O/C/I: Order/Customer/Item

  The system first searches for the schedule type specified on the demand order, then the schedule type defined in Customer Schedule Type Assignments, and finally the schedule type in item-site or item-planning data.

- O/I/C: Order/Item/Customer

  The system first searches for the schedule type specified on the demand order, then the schedule type in item-site or item-planning data, and finally the schedule type defined in Customer Schedule Type Assignments.

Rounding Option

Choose from:

- One: Round up by one
- OrdMulti: Order Multiple

The setting of Rounding Option affects order division. This field applies only to production line leveling in **Production Scheduling Automation**. For the other three procedures in **Production Scheduling Automation**, the system uses the order multiple set in item or item-site planning data for non-Kanban items or uses the Kanban Quantity for Kanban items, to calculate order quantities.

If Rounding Option is set to One, the minimum order quantity that can be divided is 1 (one).

If Rounding Option is Order Multiple, order multiple is taken into consideration during order division. Order multiple ensures easy management of quantities.

Note The Order Multiple value entered for an item in Items is used as the default for this item at all sites. You can also set up site-specific values on the Site Planning Exceptions sub-panel of **Items**.

Leveling Method Defaults

You can set defaults for leveling methods in this panel.

Allow Order Split

Specify whether an order can be divided during production line leveling.

Select Allow Order Split to allow order division or clear this checkbox to prohibit order division. By default, Allow Order Split is selected.

Restriction

Determine whether an order can be moved during line leveling.

Choose one of the following options:

- Fixed

  An order with a restriction of Fixed cannot be moved.

- NeedDate

  An order with a restriction of NeedDate can be moved to a date earlier than its Need Date, but cannot be moved to a later date. The system re-schedules the order based on the capacity on the dates earlier than the Need Date.

- None

  An order with a restriction of None can be moved to a date earlier or later than its Due Date. The system first re-schedules the order backward if the capacity on the Due Date is not enough, and then forward. The backward and forward days are determined by the value of Swing Days.

Priority

Enter an integer to specify the priority for a schedule type.

The value ranges from 0 to 99, and a smaller value denotes a higher priority. The system reschedules orders with a smaller Priority value first.

Swing Days

Specify whether an order can be moved forward or backward when production capacity is insufficient. This field also determines the time bucket within which the order can be moved.

For example, if Swing Days is set to 2, the order can be moved one or two days forward or backward during leveling.

If Swing Days is set to 0, the order cannot be moved forward or backward. This means that the order is treated as a fixed order during leveling.

EPEI Leveling Defaults

When performing leveling upon a production line, which has no specific leveling code defined, the system adopts the EPEI leveling method for this line by using the EPEI leveling defaults defined in this sub-panel.

Time Bucket

Specify a period of time to determine the length of time buckets. Then the system can calculate the number of EPEI intervals.

For a given production scheduling horizon, there can be multiple EPEI time buckets for one production line, and each EPEI time bucket can be further divided into several EPEI intervals.

The unit of time buckets could be days, weeks, or months. If you set Time Bucket to 0 days, weeks, or months, then the time bucket refers to the whole horizon.

Assume that Time Bucket is set to 1 month, in a scheduling horizon from October 20, 2019 to December 19, 2019, there are three time buckets as follows:

	Start Date	End Date
PSA Horizon	10/20/2019	12/19/2019
Time Bucket 1	10/20/2019	10/31/2019
Time Bucket 2	11/01/2019	11/30/2019
Time Bucket 3	12/01/2019	12/19/2019

When the unit is weeks, the start day for a time bucket is determined by the value of Summary Default on the MRP Control panel of **Planning Control**. For example, if Summary Default is Wednesday and Time

Bucket is set to 2 weeks, in a scheduling horizon from October 20, 2019 to December 19, 2019, there are five time buckets:

	Start Date	End Date
PSA Horizon	10/20/2019	12/19/2019
Time Bucket 1	10/20/2019	10/29/2019
Time Bucket 2	10/30/2019	11/12/2019
Time Bucket 3	11/13/2019	11/26/2019
Time Bucket 4	11/27/2019	12/10/2019
Time Bucket 5	12/11/2019	12/19/2019

Shift Scheduling

Choose Shift or Day from the drop-down list.

If Shift Scheduling is Shift, orders are scheduled by each shift and the shift number is set to the newly generated orders.

If Shift Scheduling is Day, the system summarizes the capacity by all shifts in the day and schedules orders by day. In this case, the Shift field is left blank on the newly created orders.

Update Order Sequence

Determine whether to set the sequence for the orders generated during line leveling.

Scheduling Basis

Set Scheduling Basis to one of the following:

- Takt: Orders are scheduled by takt time.
- Runtime: Orders are scheduled by manufacturing time.

Time Period

The Time Period sub-panel lists the general leveling horizon settings of domains or sites. For a certain site, the system first checks whether any specific settings are configured for the site on the Site Leveling Exceptions sub-panel. If not, then the system uses the general horizon details defined on the Time Period sub-panel.

Horizon Start

Select Days, Weeks, or Months from the drop-down list and enter an integer to identify the start of the horizon. Negative numbers are not allowed.

Note When you select Days, it refers to calendar days.

When you set the Horizon Start field, the system automatically calculates the start date and displays it in the Horizon Start Date field.

The Horizon Start field works with the Horizon Duration field to specify the time period for conducting Production Scheduling Automation calculations.

Horizon Duration

Select Days, Weeks, or Months from the drop-down list and enter an integer to identify the duration of the horizon. Negative numbers are not allowed.

The Horizon Duration field works with the Horizon Start field to specify the time period for conducting Production Scheduling Automation calculations.

Horizon Start Date

Display the start date of the horizon. Horizon Start Date cannot be earlier than today’s date.

When you set the Horizon Start field, the system automatically calculates the start date according to the following rules, and displays it in the Horizon Start Date field:

- If the unit of Horizon Start is set to Days: Horizon Start Date = Today's date + Number of days defined in Horizon Start.

  For example, if today's date is Jan 3, 2019 (Thursday) and Horizon Start is set to 0 days, then Jan 3, 2019 is displayed in Horizon Start Date. If today's date is Dec 30, 2018 (Sunday), and Horizon Start is set to 2 days, then Jan 1, 2019 is displayed in Horizon Start Date.

- If the unit of Horizon Start is set to Weeks, the system firstly identifies the start day of a week, which is determined by the value of Summary Default on the MRP panel, and then calculates the start date.

  For example, assume that the start day of a week is set to Monday, Horizon Start is set to 1 week, and today's date is Dec 31, 2018 (Monday), then Jan 7, 2019 is displayed in Horizon Start Date.

- If the unit of Horizon Start is set to Months, the system firstly identifies the first day of a month and then calculates the start date.

For example, if today's date is Jan 3, 2019 (Thursday) and Horizon Start is set to 0 month, then Jan 3, 2019 is displayed in Horizon Start Date; if Horizon Start is set to 1 month, then Feb 1, 2019 is displayed in Horizon Start Date.

Horizon End Date

Display the end date of the horizon.

Once you set both the Horizon Start and Horizon Duration fields, the system automatically calculates the end date and displays it in the Horizon End Date field.

- If the unit of Horizon Duration is set to Days: Horizon End Date = Horizon Start Date + Horizon Duration.

  For example, if today's date is Jan 3, 2019 (Thursday), both Horizon Start and Horizon Duration are set to 2 days, then Jan 5, 2019 is displayed in Horizon Start Date and Jan 7, 2019 is displayed in Horizon End Date.

- If the unit of Horizon Duration is set to Weeks, the system firstly identifies the start day of a week, which is determined by the value of Summary Default on the MRP panel, and then calculates the end date.

  For example, assume that the start day of a week is set to Monday, Horizon Start Date is Jan 7, 2019 (Monday), and Horizon Duration is set to 0 weeks. Then, Jan 13, 2019 is displayed in Horizon End Date. In this case, if Horizon Duration is set to 1 week, Jan 20, 2019 is displayed in Horizon End Date.

- If the unit of Horizon Duration is set to Months, Horizon End Date is on the last day of a month.

  For example, if Horizon Start Date is Jan 7, 2019 (Monday), and Horizon Duration is set to 1 month, then Feb 28, 2019 is displayed in Horizon End Date.

Site Leveling Exceptions

For a particular site, you can access this sub-panel to define specific Production Scheduling Automation rules.

Creating a site exception record is not mandatory. You can create a site exception record only when you need the site control settings to be different from the general control settings, that is, defaults of the preceding fields.

When you click New on the sub-panel to create an exception record for a site, the system automatically fills in the defaults that you have defined for the corresponding fields, but also allows you to manually reconfigure them based on your requirements.

On Site Leveling Exceptions, you can check the following parameters:

- Site
- Description
- Schedule Type Search Sequence
- Rounding Option
- Allow Order Split
- Restriction
- Priority
- Swing Days
- Time Bucket
- Time Bucket Increments
- Shift Scheduling
- Update Order Sequence
- Scheduling Basis
- Horizon Start
- Start Period
- Horizon Start Date
- Horizon Duration
- Duration Period
- Horizon End Date

Note You can modify the preceding fields, as needed. Horizon Start Date and Horizon End Date are view-only and are updated accordingly after you reconfigure the related fields such as Horizon Start, Start Period, Horizon Duration, and Duration Period.

Forecasts

Forecast quantities entered using this function display in weekly buckets and appear as a demand requirement for the Monday of that week.

To create new item forecasts for a given site and year, enter expected weekly shipment quantities expressed in the item's unit of measure.

You should forecast at least as many weeks as are required to cover the cumulative lead time of the item, which is the maximum time it takes to produce that item if none of its lower-level components are in stock. Forecasting an item based on cumulative lead time ensures sufficient time to respond to changes in the requirements for that item.

Note

Shipment forecasts do not represent the quantity of incoming orders, but rather the quantity expected to be shipped during a one-week period.

Forward and Backward Forecast Consumption

Typically, shipment forecasts are more accurate over a month than over a week. You can lessen the effects of inaccurate forecasts using forward and backward consumption.

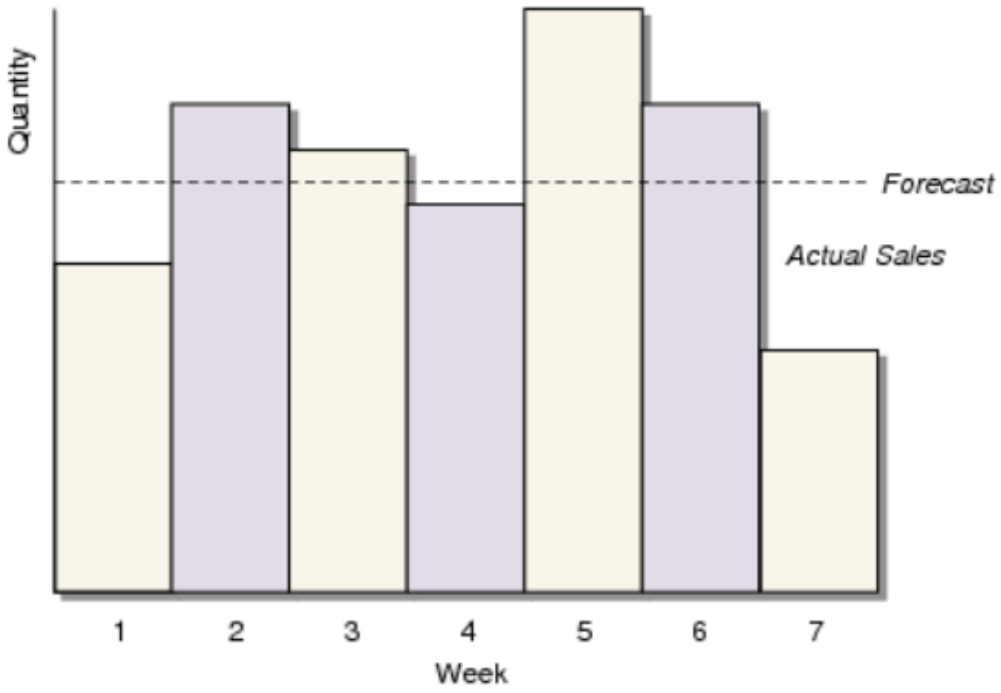
Confirmed sales order and required ship schedule quantities automatically consume forecast in the week they are due. However, if there is no remaining unconsumed forecast for that week, the system can be set to consume remaining forecast quantities for a number of weeks before or after that week.

You can specify the number of forward and backward weeks over which to consume using the Consume Forward and Consume Back fields on the Forecast Consumption panel of **Sales Control**. The system consumes forecast first by going back, then forward, one period from the original forecast period. Consumption continues alternately backward and forward until the specified number of previous and future periods is exhausted. If there are sales quantities still left over, MRP recognizes them as additional demand.

MRP and master schedule planning recognize prior period unconsumed forecast as demand for the number of weeks specified in Consume Back. If the Consume Back and Consume Forward values change, the system automatically recalculates the net forecast based on the changes.

The figure below shows an example for which the Consume Forward and Consume Back values in **Sales Control** are both 2 weeks.

- Excess sales in week 2 consume the forecast in week 1.
- Excess sales in week 3 consume the forecast in week 4, then week 1.
- Excess sales in week 5 consume the forecast in week 4, then week 7.
- Excess sales in week 6 consume the forecast in week 7.



You can switch the Forecasts hybrid view between the default view and the quick forecast view. In the quick forecast view, the grid displays Quarter, Week, Start Date, and Forecast only.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays the key data about the item you are working on, including Item, Site, and Year. These fields are read-only and stay in view even when you scroll down the page.

Note

The system maintains forecasts by year, allowing you to keep historical information for developing future forecasts. All reports and inquiries may be selected and sorted by year.

Main

Item

Specify the item this forecast applies to.

Item codes uniquely identify items or products — raw materials, purchased or manufactured intermediates, finished items, packaging materials, whatever. Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Forecasts are normally entered for any item or product subject to independent demand — from customer sales orders, service/support

requirements, and work orders. Forecasts may also be entered to account for spares requirements.

Forecasts are often entered for planning items and configured products. These forecast quantities calculate production forecast quantities for items in the planning bill and product features and options.

Items are not defined by site unless you expressly do so in item-site planning data; therefore all items are equally available at all sites. This provides broad flexibility in permitting item transactions at multiple sites (issuing work order components and receiving end products at multiple sites).

Site

Specify the site this item forecast applies to.

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information in the system is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site or by groups of sites.

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations — stockrooms, inspection stations, and shop floors.

Description 1

This field is read-only and displays the primary description of the item.

Description 2

This field is read-only and displays the extra or supplementary information for the item.

Unit of Measure

This field is read-only and displays the unit of measure for stocking and planning this item. The default is EA (each).

The item unit of measure is used for inventory balances, product structures, manufacturing orders, planning, and reporting. Values can be defined with generalized codes.

Start Date

Click the calendar, and specify the date from which you want the system to start creating forecasts for the item.

By default, the system automatically sets Start Date to today's date when Year is the current year.

Horizon End

Specify how many weeks you want to forecast. For example, if Horizon End is set to 52 weeks, the Details grid lists 52 records and each record represents one week.

If Year is the current year, the system displays the number of remaining weeks in this year in Horizon End after you specify Start Date.

Note

If Year is not the current year, the system displays 52 weeks in Horizon End. You can modify the field as needed.

Calculated End

This field is read-only.

The system calculates the end date based on Start Date and Horizon End, and displays the last day (Sunday) of the last week in the horizon.

Details

Once you set Start Date and Horizon End, the Details grid displays all the weeks from Start Date to Calculated End, including the week that the start date falls in as well as the upcoming weeks in the horizon. Each week is represented as a record in the grid.

Quarter

The quarter the week falls in.

Week

The serial number of the week.

Start Date

The first day of the week.

The start date of a week is Monday.

Forecast

The shipment forecast for a given week.

This field is editable. The default is 0 (zero) for newly created records.

Sales

The quantity of an item on confirmed sales orders and required ship schedules to be shipped this week.

Note

If Sales Update is Yes in General Parameter Control (QAD .NET UI), the Sales field is editable.

Abnormal

Confirmed sales for this week that should not consume forecast.

Sales order demand is considered abnormal if the quantity or source of demand is not characteristic of quantities anticipated by the current forecast and it should not be used to plan forecasts in the future.

You can designate sales order demand as abnormal by clearing the Consume Forecast option for that sales order or customer schedule line. Abnormal sales demand is added to the net forecast rather than being subtracted from the shipment forecast.

Note

If Abnormal Update is selected in General Parameter Control (QAD .NET UI), the Abnormal field is editable.

Production Forecast

A system-calculated forecast quantity used in multilevel master scheduling.

Sometimes, demand for one item is dependent on demand for another item. This is typical in assemble-to-order environments where it is unrealistic to stock all of the possible combinations of end items included in the selection of available models and options.

In these cases, it is impossible to accurately forecast all of these possible combinations for master production scheduling purposes. Instead, you can forecast items at the family-item and planning or option-item levels. Multilevel master scheduling enables you to perform this type of forecasting for planning purposes.

Net Forecast

The total forecast quantity seen as demand by master production scheduling and MRP.

Master production scheduling and MRP use the net forecast and abnormal sales order demand to calculate total demand.

The net forecast is calculated as follows:

Net Forecast = Forecast – Sales Order Demand

Note

When the shipment forecast is oversold — that is, the quantity sold exceeds the forecast amount — the net forecast is not allowed to go below zero.

You are not allowed to delete a forecast whose Sales or Abnormal is not 0 (zero).

Detail Forecasts

Forecast results are the detail forecast records produced by forecast calculation. Results can require manipulation to be more reflective of future market demand, especially when forecast results are based on unprecedented sales.

You can retrieve forecasts by forecast and year. When the forecast is for a product group, define a specific item. Forecasts are displayed in three columns: month, original quantity, and adjusted quantity. Initially, the adjusted quantity is equal to the original quantity. You change the adjusted quantities. When creating forecasts, the original and adjusted quantities are initialized as zero.

When future demand is expected to differ from sales history, manually adjust the forecast as needed. Ensure all necessary adjustments are made before copying forecasts to MRP.

When creating forecasts, provide a forecast, year, and item. Alterations to forecast records are permanent. To reproduce the original forecast, run the calculation again. Before manipulating forecasts, archive the original forecast, or copy the record to another forecast.

Define menu security for this program to restrict access.

Summary Panel

The Summary panel displays the key data of the forecast. The fields are read-only and remain in view when you scroll down the page.

Main Panel

Forecast

Specify the forecast. The forecast uniquely identifies a set of forecast simulation criteria. Forecast, Forecast Year, and Item identify forecast simulation results. The forecast value must be unique. This field is a mandatory field .

Each forecast is identified by Forecast, Forecast Year, and Item. You can store multiple sets of forecast criteria in the system using different forecasts. You can view and sort forecasting simulation reports by Forecast and Forecast Year.

Forecast Year

Specify the fiscal year to which this forecast applies.

The system maintains forecast results by Forecast, Forecast Year, and Item. The Forecast Year must be four digits and cannot be left blank.

Item

Specify the item. The item cannot be a base process such as an item with a co-product or by-product structure.

Unit of Measure

Displays the unit of measure for the item.

Details Panel

Month

Displays the forecast month.

Original Forecast

Enter the forecast quantity for the month. You can only enter the original forecast when creating a new forecast. When modifying an existing forecast, the Original Forecast field is disabled.

Adjusted Forecast

Enter the adjusted forecast quantity for the month. You can only enter the adjusted forecast when modifying an existing forecast. When creating a new forecast, the Adjusted Forecast field is disabled.

Creating a Detail Forecast

1. Go to **Detail Forecasts**.
2. In the toolbar, click the New button.
3. Complete the fields described above.
4. Click Save.

Modifying a Detail Forecast

1. Go to **Detail Forecasts**.
2. Select the detail forecast you want to modify and click Edit. Alternatively, double-click the detail forecast.
3. Edit the relevant information.
4. Click Save.

Deleting a Detail Forecast

1. Go to **Detail Forecasts**.
2. Double-click the detail forecast you want to delete.
3. In the toolbar, click the Delete button.
4. A message appears prompting you to confirm the deletion. Click Delete.

Planned Orders

Planned orders are created by Material Planning only and deleted the next time Material Planning runs. Planned orders can be included in CRP calculations.

An order generated by Material Planning has an item number that determines what is made (one item per production order) and site, which determines the routing code, bill of material, and expected yield. The production order type is blank. Material Planning fills in the quantity ordered and due date, and calculates the release date by subtracting the lead time for the item at that site from the due date. Material Planning supplies the quantity ordered based on the expected yield. The yield is not used for calculating quantities for joint orders.

The **Planned Orders** view allows you to view items, IDs, production orders, quantity ordered, and release dates, but does not provide information about the material plans, supply/demand, component availability, resource load, or capacity.

You can select a planned order record and select Open to view details about it. You can then select Delete to remove this order. However, planned order creation and modification are not supported in the **Planned Orders** view.

Summary

The Summary panel displays the key data about the planned order that you are working on, including Order, ID, Item, Release Date, and Quantity To Start. These fields are read only and stay in view, even when you scroll down the page.

Main

On the Main panel, you can view the following fields:

Site

A code identifying a valid site associated with the planned order.

Item

A code identifying the item required for this planned order.

Description 1

This field is read only and displays the primary item description set in Items.

Description 2

This field is read only and displays the second description line set in Items for extra or supplementary information on the item.

Buyer/Planner

A code identifying the person responsible for planning and ordering this item. This field is validated against predefined values entered in **Generalized Codes**, if any.

Purchase/Manufacture

A code indicating how this item is typically processed by the system. The Purchase/Manufacture code controls how the system explodes forecasts, plans and creates orders, and calculates costs for the item. It affects Material Planning (MRP) and Distribution Requirements Planning (DRP).

This field is validated against predefined values entered in **Generalized Codes**, if any. Valid code options include the following:

- P (Purchased). The item is usually purchased. Material Planning uses the purchasing and inspection lead times to calculate planned order release dates. Material Planning and cost calculations do not explode purchased assemblies, even when a product structure exists. Any routing/process operations are ignored. You can also manufacture an item designated as purchased. The product structure and routing are accessed if a production order is created for the item.
- D (DRP). The item is usually supplied internally from another site. DRP uses the item's source network to determine where to generate requirements. It uses the transport lead time and shipping schedules to calculate the date when orders must be shipped from the other site. Any routing or BOM codes entered for a DRP item are for reference only. Cost calculations do not explode DRP items.
- M (Manufactured). The item is normally manufactured. Material Planning uses the manufacturing lead time to calculate planned order release dates. You can also purchase a manufactured item.
- R (Routable). The item is a special type of manufactured item, made only when needed by an upper-level assembly. A production order for the routable item is created automatically when a production order for its parent is released. The production order number is the same, but the lot ID is different. This lets the system track the two orders separately but accumulate the costs.
- C (Configured). The item is configured to order. When a sales quote or order is entered, the system prompts the order taker to select from a list of configuration options. Valid options are defined in **Configured Structures** .
- L (Line manufactured). The item is manufactured repetitively on a single line or on multiple production lines.

- F (Family). A family item typically represents a generic category used for planning only; it is never actually made or stocked. For multilevel master scheduling, family items are set up with a planning bill.

Order

A name or a code for the planned order.

ID

A unique ID for the planned order. The system always assigns the next lot ID if it is left blank.

Scheduling

The Scheduling sub-panel consists of the following fields:

Quantity to Start

The quantity to begin producing when an order is released. When the order is maintained by entering the Quantity to Start in Production Orders, the system calculates the Quantity to Complete from the Quantity to Start and the Estimated Yield Percent. When an order is maintained by entering the Quantity to Complete, the system calculates the Quantity to Start. When both quantities are entered, the system recalculates and updates the Estimated Yield Percent.

Release Date

Date when the order is scheduled to be released to production. The default is today's date.

Due Date

Date when the order is due to be completed. The default is today's date plus the manufacturing lead time for the item.

Order Status

Current status of the order, which is P (Planned).

Routing

A code identifying the routing or process used to produce this item or product.

BOM/Formula

A code identifying the product structure or formula. The production order BOM is derived from the item’s product structure, defined in **Product Structures & Formulas**, and the quantity ordered.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and

automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Delete Planned Orders Action

You can choose to delete planned orders in bulk by selecting the *Bulk* Delete option from the Action menu.

The navigation always includes two panels, Criteria and Planned Orders. The Criteria Panel includes the Additional Criteria subpanel.

Criteria

View or set filter criteria on the Criteria panel and Additional Criteria subpanel.

Search Criteria

Indicates the search criteria, which default from the Planned Orders browse. This field is view only.

Required Criteria

Indicates that the system searches for orders with an Order Status of P (Planned). This field is view only.

Additional Criteria

Set options in this panel to refine the planned orders to select to delete.

The checkboxes in this subpanel are all selected by default. You can clear any of them as needed.

After setting filter criteria, click Search.

Include Discrete Manufactured Items

Select or clear this checkbox as needed to determine if planned orders for discrete manufactured items are considered by this function.

Include Line Manufactured Items

Select or clear this checkbox as needed to determine if planned orders for line manufactured items are considered by this function.

Include Purchased Items

Select or clear this checkbox as needed to determine if planned orders for purchased items are considered by this function.

Include Kanban Replenished Items

Select or clear this checkbox as needed to determine if planned orders for Kanban-replenished items are considered by this function.

Kanban items are defined in **Items** for use in the QAD Kanban module.

Include MPS Items

Select or clear this checkbox as needed to determine if planned orders for Master Production Schedule (MPS) items are considered by this function.

Master schedule items are typically end items, critical sub-assemblies, spares, service items, critical components, or key resources.

Include non-MPS Items

Select or clear this checkbox as needed to determine if planned orders for non-MPS items are considered by this function.

Include Phantoms

Select or clear this checkbox as needed to determine if planned orders for phantom items are considered by this function.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in **Items**.

Include GRC Items

Select or clear this checkbox as needed to determine if planned orders for Gross Requirements Calculation (GRC) items are considered by this function.

GRC aims to synchronize information and activity to operate more efficiently, promote information sharing and effective reporting, and avoid overlaps.

Planned Orders

On the Planned Orders panel, review the selection displayed, select the orders that you want to delete, and select Submit to delete them.

Once deleted, the planned orders are removed from both the **Planned Orders** view and the **Production Orders** view.

Firm Production Planned Orders Action

Use the *Bulk* firm production action to have the system approve planned orders.

The navigation includes two steps:

- Step 1: Setup. This step lets you select criteria from three panels: Search Criteria, Required Criteria, and Additional Criteria. Click Continue once you select options.
- Step 2: Submit. This step displays the Main panel with the Firm Production grid; you can update some fields with the grid.

Co/By-Products

You can approve planned co/by-orders using this action. When using the action:

1. When you select any order in the joint order set, the system identifies the base order and updates the joint order set based on effective dates for the co/by-product structure.
2. You cannot change the quantity and date of co/by-orders; however, you can change the quantity and date of base orders.

When you run the action, the system creates a joint order set when the item has a BOM/Formula code for a base process even when an MRP-planned order is originally created without a joint order set.

Search Criteria

These fields are display only and depict search options set for the browse.

Criteria

Indicate the search criteria, which defaults from the Planned Orders browse. This field is view-only.

Orders Returned

Indicate the number of orders that meet search criteria, which defaults from the Planned Orders browse. This field is view-only.

Required Criteria

Indicate that orders whose Order Status is P (Planned) are searched for. This field is view-only.

Include Discrete Manufactured Items

Select or clear this check box as needed to determine if production orders for discrete manufactured items are considered by this function.

Include Line Manufactured Items

Select or clear this check box as needed to determine if production orders for line manufactured items are considered by this function.

Include Purchased Items

Select or clear this check box as needed to determine if production orders for purchased items are considered by this function.

Include Kanban Replenished Items

Select or clear this check box as needed to determine if production orders for kanban replenished items are considered by this function.

Kanban items are defined in Items for use in the QAD kanban module.

Include MPS Items

Select or clear this check box as needed to determine if production orders for Master Production Schedule (MPS) items are considered by this function.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

Include non-MPS Items

Select or clear this check box as needed to determine if production orders for non-MPS items are considered by this function.

Include Phantoms

Select or clear this check box as needed to determine if production orders for phantom items are considered by this function.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in Items.

Include GRC Items

Select or clear this check box as needed to determine if production orders for Gross Requirements Calculation (GRC) items are considered by this function.

GRC aims to synchronize information and activity to operate more efficiently, promote information sharing and effective reporting, and avoid overlaps.

The following check boxes are selected by default:

- Include Discrete Manufactured Items
- Include Line Manufactured Items
- Include MPS Items
- Include non-MPS Items

In the Submit window, review the selection that displays, select orders as needed, and click Submit for further processing.

Note

On the Main panel of the Submit window, you can reconfigure Production Order, Qty Ordered, and Due Date before clicking Submit. Due Date should be equal to or later than Release Date. A firmed order has the same release date and due date with the planned order. Qty Ordered should be greater than zero (0).

Once you approve planned orders successfully, the order status of each of them changes from P (Planned) to F (Firmed). In addition, the Planned Orders view automatically refreshes and such orders become unavailable in this view. You can open the Production Orders view to search for those orders.

Firm Purchasing

After the Material Resource Planning process (MRP) creates time-phased material plans for procurement and production orders (Planned Orders), buyers and purchase material planners can use the bulk **Firm Purchasing** action to convert planned orders into different kinds of purchasing documents, such as approved or unapproved requisitions, blanket order releases, or purchase orders.

Criteria for Document Type Proposed

The system proposes document types (under the **Type** column in the firm purchasing grid) by evaluating whether the necessary conditions are met for each. Conditions include both user selection in the Options panel (For more details, refer to the Options Panel on page 3218) and setup data available in the system. . The applicable types of documents and their conditions are specified in the next table:

Type	Condition(s)
Blanket order release	Include Blanket Orders is selected in the Options Panel on page 3218 *and*: • Supplier is not blank. • The blanket order start date should be earlier than or equal to today's date for the system to consider it as a blanket order applicable for Firm Purchasing. • There is a blanket order line for the site-item and the open quantity on the line is equal to or more than the quantity requested in the planned order. **Note** When the UM of the quantity requested in the planned order is different to the UM in the blanket order, then the UM conversion specified in the blanket order should be applied so that the system can

Type	Condition(s)
	verify that the blanket order has sufficient open quantity. When multiple planned orders reference a single blanket order, the Open Quantity determines if there's enough available on the blanket order line to fulfill the quantity requested by any individual planned order. **Example** If a blanket order has a total quantity of 100 units, and we have two planned orders, A (30 units) and B (40 units), the system effectively pools or distributes the blanket order's capacity (100 units) across these selected planned orders (totaling 70 units). **Note** The system applies grouping logic to blanket order releases and converts them into a single purchase order when planned orders reference the same blanket order number (see Document Group in the Firm Purchasing Panel on page 3224 for more details)
Purchase order	The planned order doesn't meet the criteria for Blanket Order Release *and*: • The **Auto-Release to Purchase Order** checkbox is selected in the Options Panel on page 3218 *and* • Supplier is not blank (*) *and* • A price list/discount table is attached to the supplier that is applicable/effective as of the planned order due date or today's date (depending

Type	Condition(s)
	on Price by PO Line Due Date setting available in the Accounting Panel in **Purchasing Control**) **Note** Supplier price lists must be defined in the supplier's currency. Similarly, if a supplier price list is defined in a different unit of measure (UM) than the item's stock UM, the system will apply the defined UM conversion factor. A blank UM is not considered different from the planned order item's UM, so the system will ignore it. *Or*: • A supplier item is defined for the supplier, item, currency and the supplier quote price field is defined for the supplier item (supplier quote price is greater than 0). **Note** The supplier price list can have an alternate UM defined for the item. If that's the case, the Purchase order will be created with the Supplier UM applying the appropriate conversion factor. *Or*: • A GL material cost is defined in **Items in Site Cost Exception or GL Costs** for the planned order line item and the cost is not equal to zero. **Note** The GL material cost will consider all cost elements that fall under category Material. *and* • Price Table Required and/ or Discrete Discount Table

Type	Condition(s)
	Required are not selected in **Purchasing Control** *and* • A price list/discount table is not attached to the supplier or not applicable/effective as of the planned order due date or today's date *and* • A supplier item is not defined for the supplier, item and currency. **Important** (*) If the Supplier field is not defined, the system will default to Requisition as the Document Type. To have the system propose Purchase Order as the Document Type, manually enter the supplier on the Firm Purchasing Panel Grid and re-run the simulation.
Approved requisition	The planned order doesn't meet the criteria for Blanket Order Release and Purchase Orders *and*: • **Always Approve Requisitions** checkbox is selected in the Options Panel on page 3218*and* • No product line approval groups are defined for the product line associated with the item (see GRS setup for Requisition Approvals on page 4399) *and* • Product line approval is not required when is 0.
Unapproved requisition	The planned order doesn't meet the criteria for any of the above document types.

Note When you create a requisition order using the Firm Purchasing action, the system uses the inventory account, not the purchasing account.

Pre-populated Fields for Purchase Orders

The following fields will be populated as described below when **Purchase Orders** are created using Firm Purchasing

Main Panel

- Entered By: User that executed the Firm Purchasing action
- Order Date: Today's Date

Accounting Details for Purchase Orders

When manually creating a Purchase Order, the system uses the Inventory Account due to the receive type being Inventory.

When creating a Purchase Order from planned orders via firm purchasing, the system uses the Product Line's Inventory Account due to the receive type being Inventory.

Pre-populated Fields for Requisitions

The following fields have to be prepopulated in the **Requisitions** view

Main Panel

- Reason for Request: MRP planned order
- Requisition Type: Direct
- Entered by: The user that is logged in
- Entity: Defaulted from Site
- Requisition Date: Today’s Date
- Requisition Number: System-generated unique identifier

Pricing Panel

- Discount List: Defaults from the supplier record

Exchange Rate Panel

- Exchange rate from: Domain currency.
- Exchange rate to: Supplier’s Currency

Accounting Panel

- Receive Type: Inventory
- Account: Suppliers > Accounting Profile > Purchase GL Account
- Subaccount: Suppliers > Accounting Profile > Subaccount
- Cost Center: Defaults from GL Accounts > Default Cost Center

Line Details>Item Details Panel

- UM Conversion: Unit of Measure for the Line Item
- Stock UM Quantity: Quantity Ordered * UM Conversion

Project Panel

- Charge Type: Expense or Capital

Accounting Details for Requisitions

Creating Requisitions

In the case of Requisitions, the system uses the Purchasing Account (Purchases) as defined by the Purchasing Accounts view or the Product Line.

Creating Requisitions through Firm Purchasing with Supplier

When Requisitions are generated from planned orders using firm purchasing and a supplier is defined, the system uses the accounts associated with the supplier's Purchase Account and Sub-account profile.

Creating Requisitions through Firm Purchasing without Supplier

When Requisitions are generated from planned orders using firm purchasing and a supplier is not defined, the system uses the Purchasing Account (Purchases) as defined in the Purchasing Accounts view or the Product Line.

Note When you create a requisition order using the Firm Purchasing action, the system uses the inventory account, not the purchasing account.

Prerequisites for Firm Purchasing

Before you use the Firm Purchasing function, ensure that you complete the following steps:

Category	View	Field	Mandatory/ Optional	Notes
Define Sequence	Purchasing Control (for **Purchase Orders**	Next Purchase Order and PO Prefix	Mandatory	
	Purchase Requisition Control (for **Requisitions**)	Requisition Sequence	Mandatory	
Define Bill-To and Ship-To	Purchasing Control	Bill-to and Ship-to	Recommended	If a Site Exception is defined for the site in the Purchasing Control > Accounting

Category	View	Field	Mandatory/ Optional	Notes
				panel, the system uses the bill-to and ship-to addresses specified in that exception.
Define Buyer	Purchase Requisition Control	Direct Admin Buyer	Mandatory for requisitions	
	Generalized Codes	Buyer defined as po_buyer	Mandatory	
	Users	Buyer defined as User	Mandatory for requisitions	
	Buyers (In GRS Requisition Setup)	Buyer (in GRS Requisition setup, Buyers)	Mandatory for requisitions	
Define Buyer (non mandatory, depending on specific business scenarios)	Suppliers	Buyer (validated in General Codes as vd_buyer)	Recommended Mandatory, if values are defined for po_buyer generalized code	vd_buyer and po_buyer must be synchronized
	Commodity Codes	Buyer	Optional, you may choose to assign Buyer at Commodity Code level	Buyers can be defined for a specific site-commodity code combination in the the Sites panel
	Items (in Site Planning	Purchasing Buyer	Optional	

Category	View	Field	Mandatory/ Optional	Notes
	Exceptions subpanel or Item-planning Data)			
Define Requester	Employees	Login field in Employee screen	Mandatory for Requisitions	Make sure that all users that execute Firm Purchasing are linked to an active Employee record.
Define Supplier Price Lists	Suppliers> Supplier Domain Settings Panel > Details Subpanel	Price List and Discount Table	Mandatory when Price Table Required or Discrete Discount Table Required is selected in **Purchasing Control**, otherwise this setup is optional	
Linking Supplier and Items	Items> Main panel > Planning Subpanel (or Site Planning Exceptions)	Supplier	Optional	
	Supplier Items	Supplier	Optional	

Firm Purchasing View

The navigation of the Firm Purchasing view includes three panels: Options, Criteria, and Firm Purchasing. The Options panel includes a Pricing subpanel, while the Criteria panel includes an Additional Criteria subpanel.

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the action you are working on, including Lines Selected, Lines with Errors, and Documents to Create. These fields are read-only and stay in view, even when you scroll down the page.

Options Panel

The selections you make here impact the types of orders that display in the Firm Purchasing panel. When you do not make selections, the system always proposes document types of **Unapproved Requisition** in the grid in the Firm Purchasing panel.

NoteFor detailed information regarding the criteria for document type validation, refer to Criteria for Document Type Proposed on page 3209

Note If you change any settings in the Options panel, you have to first click the Search button, and then click on the Simulate button on the Firm Purchasing Panel grid. This is to ensure the system proposes the correct document type, and to avoid any error messages. This allows you to successfully run back-to-back simulations.

Always Approve Requisitions

Select this checkbox to convert a planned order into an **Approved requisition** type. Upon selection, the system automatically sets the **Type** field in the Firm Purchasing grid to **Approved Requisition** (if additional conditions for proposed Approved Requisition are also met)

If you leave it cleared, the system does not propose **Approved Requisition** type in the Firm Purchasing grid

Include Blanket Orders

Select this checkbox to allow for the creation of the **Blanket Order Release** type. When selected, active blanket orders are considered during search/submission. Planned orders with a **Blanket Order Release** type are converted to purchase orders that reference the blanket order identified by the system.

If you leave it cleared, no order with a **Blanket Order Release** type is displayed on the Firm Purchasing grid.

Auto Release to Purchase Order

Select this checkbox to release a planned order as a **Purchase Order** when submitting. The system can propose a purchase order type during the search or simulation.

If cleared, planned orders with a **Purchase Order** type do not display in the Firm Purchasing grid.

Start PO Approval

Select this option to start the routing of a pending purchase order. When not selected and Generic Approvals is enabled for the purchase order, the system generates a pending purchase order; however, you should manually start routing for the pending purchase order.

When Generic Approvals is enabled, Start PO Approval is selected by default. When Generic Approvals is not selected, Start PO Approval is not selected by default and is disabled.

Pricing Subpanel

Advanced Pricing

Select this checkbox to enable advanced pricing logic to calculate Unit Price/Discount %. The system consolidates planned orders by Item and Supplier (and by Site, as an additional option when the scenario exists). To utilize Advanced Pricing, the following must exist in the system:

- A Discount Table with a Supplier Price List defined as Discount %, Price or Markup %.

Advanced Pricing ensures the best possible pricing structure considering the total quantity of an item purchased from a single supplier, even if those items are on separate planned orders which will be converted to different lines of the purchasing document. This prevents missed volume discounts. The default value for the Advanced Pricing flag is defaulted from the same-named option available in Purchasing Control.

Example:

You need 150 units of Item 60044 from Supplier 10S1005. The price list shows a price of $40 per unit for orders over 100 units, and $50 per unit under 100 units.

Feature	Scenario	Quantity	Unit Price	Total Cost	Savings
Without Advanced Pricing	Two separate order lines (e.g., different delivery dates or locations)	Line 1: 50 units Line 2: 100 units **Total**: 150 units	$50 per unit (Each line priced separately)	$7,500	$0
With Advanced Pricing	Two separate order lines (e.g., different delivery dates or locations)	Line 1: 50 units Line 2: 100 units **Total**: 150 units	$40 per unit (Total quantity considered)	$6,000	$1,500

Note When Advanced Pricing is not selected, the Unit Price/Discount % calculation is applied to each planned order individually.

Group Multiple Sites

Select **Group Multiple Sites** to group planned orders by Item, Supplier across Sites in order to calculate Unit Prices / Discount % . The default value for **Group Multiple Sites** is defaulted from the same-named option in Purchasing Control.

For more information, check Requisition Grouping Rules on page 3234

Note This option has no effect when the Advanced Pricing option is not selected.

Note When both the Advanced Pricing and Group Multiple Sites checkboxes are enabled, the system considers planned orders from all sites and applies advanced pricing consolidation logic across them. This means the system will group these planned orders by Item and Supplier.

Criteria Panel

Search Criteria

Indicates the search criteria used in the Planned Orders browse filter. This field is view only.

Required Criteria

Indicates that the system searches for orders with an Order Status of P (Planned) and Manufacture/Purchase = “P” (Purchase). Please note that this field is defaulted from the Item, under Planning settings. This field is view only.

Additional Criteria

Use this panel to refine your selection of planned orders for conversion to the required document type.

Include Manufactured Items

Use this checkbox to include planned orders for manufactured items.

If this checkbox is selected, then planned orders for manufactured items (Pur/Mfg code = M or blank) and line manufactured items (Pur/Mfg code = L) are displayed and may be converted to purchasing documents.

This is useful when you have items that you usually manufacture, but also can purchase from outside suppliers. When a planned order is created for the item, you have the choice of approving a purchase or work order.

Include Kanban Replenished Items

Select this checkbox to include planned orders for Kanban-replenished items.

Kanban items are defined in **Items** for use in the QAD Kanban module. Items defined for Kanban have assigned **Kanban Method** for Replenishment method field.

Include GRC Items

Select to include planned orders for Governance, Risk Management, and Compliance (GRC) items.

GRC aims to synchronize information and activity across governance, risk management, and compliance to operate more efficiently, promote information sharing and effective reporting, and avoid overlaps.

GRC is a new Order Policy and is defined at the item or item-site level.

GRC is a short for Gross Requirements Calculation and is appropriate only for Kanban replenished items. When material requirements are calculated for items with Order Policy = GRC, the item phased requirements calculations are performed differently, by determining the order release dates for planned orders based on the projected

consumption of inventory, regardless of the lead time for the item, then it calculates the due date based on the release date and the item lead time. This is in contrast to traditional net requirements planning and MRP which determines the order due dates for planned order based on the projected consumption (and due date) of inventory, then determines the release date for those orders based on the lead time for the item.

Include Routable Items

Select this checkbox to include planned orders for routable items.

If this field is set to Yes, the planned orders for routable items (Pur/Mfg code = Routable) are displayed and may be approved as purchase requisitions.

Include MPS Items

This option is selected by default. Select this checkbox to include planned orders for Master Production Schedule (MPS) items. MPS items are those items that have the Master Schedule checkbox in Items > Planning Panel selected.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

Include non-MPS Items

This option is selected by default. Select this checkbox to include planned orders for non-MPS items.

Non-master scheduled items are those items that have the Master Schedule checkbox in Items > Planning Panel unselected.

Include Phantoms

Select this checkbox to include planned orders for phantom items.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom checkbox in **Items defined under Planning or in Site Planning Exceptions**.

For more information about Phantom Items, see Planning on page 647

Search

After you define your search criteria and click Search, the system performs the following actions:

1. It locates all planned orders that match the specified criteria.
2. The system calculates Unit Price, Discount % and Currency for each planned order. The logic to calculate this information will depend on the settings selected in the Pricing subpanel. See Pricing Subpanel on page 3219 for more details.

3. The system retrieves additional information from the master data required to complete the Firm purchasing process such as (see Prerequisites for Firm Purchasing on page 3214):
   a. Supplier (if defined at item level)
   b. Bill-to
   c. Ship-to
4. The system calculates the Type column to specify the document type proposed by the system. See Criteria for Document Type Proposed on page 3209 for more details. Additionally, the system proposes document grouping under column Document Group.
5. The system displays associated supporting data such as:
   - Blanket order number
   - Price List/Discount
   - Table Supplier item

You can click Reset Criteria to quickly restore the default search criteria.

Note When you click the Search button, the system resets planned orders to their original, system-calculated state. It discards any user modifications made in the Firm Purchasing panel. Therefore, if you change settings in the Options panel, click Search before Simulation to ensure a smooth simulation and prevent errors.

Firm Purchasing Panel

The Firm Purchasing panel displays the planned orders that meet the criteria you set. After searching, the data matching your criteria appears in the Firm Purchasing grid. You can then select planned orders for conversion to a specific document type, run new simulations, and then submit to create the documents.

Simulate

Select this option to run new system simulations before you select Submit. When you select Simulate, the system displays the proposed document type and other supporting data. In the case that the user manually modifies the proposed “Type” for a particular planned order, the system will validate if the selected Type is valid for that planned order. The supporting data (blanket order, price list, supplier term) helps to understand the system's selection of order types displayed in the grid.

Once you click Simulation, the Simulation column is cleared, and the summary panel shows the number of errors that occurred during the submission, if any.

To notify users of simulation failures caused by errors, the system places the Failed icon in the simulation column next to the lines that encountered issues.

The system displays a warning icon () in the simulation column next to the lines when:

- You change the Supplier to indicate that a new simulation should be run in order to recalculate the document type proposed, unit price, discount % and currency.
- You change the Document type to indicate that a new simulation should be run in order to validate if the selected type is valid for the planned order.
- You change Ship-to or Bill-to to indicate that a new simulation should be run in order to recalculate the Document Group since this affects grouping criteria.
- You change Quantity, Unit Price, Discount % or Due Date and Advanced Pricing is active to indicate that a new simulation should be run in order to recalculate Unit Prices / Discount %. In this case, the system will display the warning icon () for all the lines included in the same Pricing Group.
- You change Due date and Advanced Pricing is not active and Price Line by due date = Yes in Purchasing control to indicate that a new simulation should be run in order to recalculate unit price and discount %.

Submit

Select this option to convert the planned orders to the document type specified in the Type field of the Firm Purchasing grid.

Once you submit the selected planned order lines, the Simulation column is cleared, and lines with errors and the number of errors that occurred during the submission display.

Note The Submit button is disabled when there is at least one line with an error among the selected lines or if there is a line with a warning (). In this case, the Simulation action needs to be performed first.

The result displays the Successful icon () after the line has been successfully submitted. It cannot be changed by the user.

After successfully submitting, the Documents to create field in the Summary panel will display the total of documents you have created after using Firm Purchasing.

Firm Purchasing Grid

In the Firm Purchasing grid, you can edit the Quantity, Unit Price, Discount %, Supplier, Ship-To, Due Date, Type, and Bill-To fields as well as select or unselect lines for Simulation/Submit.

Site

A code identifying a valid site associated with the planned order.

Item

A code identifying the item required for this planned order.

Description

Primary description of the required item.

Quantity

Update or accept the quantity of the planned order. You can increase/decrease, or set the value to 0 (zero).

UM

Unit of Measure (UM) for stocking and planning this item.

The item unit of measure is used for inventory balances, product structures, manufacturing orders, planning, and reporting. Values must be defined with **Generalized Codes**.

Note Even though the UM is a read-only field in the Purchasing grid, there are scenarios where the system will apply a UM conversion when creating the document and both Quantity and UM will be converted by system. The Unit of Measure (UM) can be automatically updated by the system if Supplier Items exist and the supplier's UM

differs from the base UM. If a conversion factor is available, it will be applied; otherwise, no conversion is performed.

Please refer to Criteria for Document Type Proposed on page 3209 for more details.

Supplier

Update or confirm the code for the company providing the order items. The code that displays defaults from item-site planning/item planning data specified in **Items**.

When it finds a planned order, the system displays the default supplier if available. The system also fills in the default values for the Type, Blanket Order Number, Price List, and Supplier Item fields according to the default supplier.

After you reconfigure the value of the Supplier for a planned order, the system removes the values in Type, Blanket Order Number, Price List, Supplier Item, and Document Group. If you then select Simulate, the system proposes a type according to the Supplier value you set, and updates the values in the preceding fields accordingly.

Supplier Name

Name of the suppler defined in **Suppliers**.

This field is view only. If you change the supplier, the value in Supplier Name is changed accordingly.

Unit Price

Edit or confirm the unit price.

Depending on the document Type proposed, the system calculates the Unit price using different information available in the system:

- When Type is either **Approved/Unapproved Requisitions** or **Purchase Orders**: The system calculates the price based on the Supplier Price List (Amount Type set to List Price)/Discount Table (Amount type set to Price) linked to the supplier or the Supplier Quote Price defined for the specific Supplier and Item combination; otherwise, it defaults the Material Cost of This Level from the GL cost in **Items**.
- When Type is a **Blanket Order Release**, the Unit Price is populated from the available blanket order.

Note When the Advanced Pricing option is selected in the Pricing Subpanel on page 3219, the system calculates the Unit Price based on planned order consolidation by planned volume. The system consolidates planned orders by item and supplier (and by Site as an option when this scenario exists).

For more information about the conditions required for this field, see Price and Discount % Calculation on page 3232.

Discount %

Edit or confirm the discount percentage.

Depending on the document Type proposed, the system calculates the Discount % using different information available in the system:

- When Type is either **Approved/Unapproved Requisitions** or **Purchase Orders**: The system calculates the percentage based on the Supplier Price List (Amount type set to Price, Discount %, or Markup %) in conjunction with the fixed Discount % defined for the Supplier (if supplier is defined for the Planned Order).
- When Type the document type is a Blanket Order Release, the Discount % is populated from the available blanket order.

For more information about the conditions required for this field, see Price and Discount % Calculation on page 3232.

Extended Price

This read-only field displays the total price per line that the system calculates based on Quantity, Unit Price, and Discount %; it is recalculated each time you update any of the three values. The calculation is as follows:

*Quantity * Unit price * (1-Discount %)*

Currency

This read-only field displays the currency code, which defaults from **Suppliers** when you specify a supplier; otherwise the currency code defaults from the domain base currency.

Pricing Group

This read-only field indicates how planned orders are grouped, in order to determine the Unit Price and Discount % fields. The way the system establishes the Pricing group depends on the checkboxes selected in the Pricing subpanel of the Options panel.

The system generates the value based on a predefined sequence, which is unique within the firm purchasing run sequence:

Format: *TODAY(YYYYMMDD) + - sequence number(XXXX)*

For example, planned orders with pricing group 20210121-0001 will be grouped for pricing purposes.

When Advanced Pricing is not selected, this field is not populated.

When Advanced Pricing is selected, and you update the Supplier, Unit Price, Discount %, or Due Date, or Document Type, any value in this field is cleared. The entire Pricing Group needs to be recalculated

to reflect the changes. Therefore, the Simulation is set to a warning status, indicating to the user that a new Simulation needs to be run.

When both the Advanced Pricing and Group Multiple Sites checkboxes are enabled, the system considers planned orders from all sites and applies advanced pricing consolidation logic across them. This means the system will group these planned orders by Item and Supplier.

If Advanced Pricing is not selected, the system will group planned orders by Site, Item, and Supplier. Consequently, planned orders for the same site will be grouped into a single document.

Original Quantity

The planned order quantity calculated by the system (MRP).

Original Quantity, Original Price, and Original Discount % can be useful information when determining the initial value calculated by the system before a user update.

Original Price

This read-only field displays the unit price calculated by the system.

Original Discount %

This read-only field displays the discount % calculated by the system.

Bill-To

Update or confirm the Bill-To code. Initially, the value defaults from settings defined in the Site Exceptions subpanel of the Accounting Panel in **Purchasing Control**. When not found there, it defaults from the Bill-To in the Accounting Panel.

You must enter a valid value defined in Companies. Once you update the Bill-To, the system clears the Type, Blanket Order Number, Price List, Supplier Item, and Document Type Group. Select Simulate/Submit to recalculate values for the cleared fields.

Ship-To

Update or confirm the ship-to address code that identifies where the order items are delivered. Initially, the value defaults from settings defined in the Site Exceptions subpanel of the Accounting Panel in **Purchasing Control**. When not found there, it defaults from Ship-To field in the Main Panel of **Purchasing Control**.

You must enter a valid value defined in Companies. Once you update the Ship-To, the system clears the Type, Blanket Order Number, Price List, Supplier Item, and Document Group. You select Simulate/Submit to recalculate values for the cleared fields.

Buyer

Update or confirm the buyer. When updating, the buyer should exist in **Generalized Codes** (po_buyer); otherwise, an error displays when you select Simulate.

When you click Search in the Criteria panel, the system defaults the Buyer value based on the following:

1. From the Buyer field defined in the Pricing Panel of **Supplier Domain Settings** when the Supplier also displays in the grid and **Supplier Domain Settings** are defined for the Supplier.
2. From the Purchasing Buyer from **Item Site Planning Exceptions** (if available) or from the Main Panel.
3. When the item has a commodity code, from the Buyer in the Sites panel of **Commodity Codes** and when a buyer is defined for the planned order site. Otherwise, it defaults from the buyer in the Main panel of **Commodity Codes**.

When none of these conditions are met, the buyer in the grid is blank.

The buyer is also considered when the system groups planned orders into a single document type. See Requisition Grouping Rules on page 3234.

Please look for more information about buyer setup requisites under Prerequisites for Firm Purchasing on page 3214.

Due Date

Update or confirm the date the items in this order are due at the order site.

Type

You can update or confirm the document type that will be generated after you simulate. If you need to change the document type post-simulation, you must do so manually before clicking Submit.

The following options are available:

- Unapproved Requisition
- Approved Requisition
- Blanket Order Release
- Purchase Order

For more information about the document type generated, see Criteria for Document Type Proposed on page 3209.

Document Number

The ID of the newly generated document is displayed upon successful release of a planned order.

In this case, the values in Planned Order and Planned Order ID are removed accordingly.

Blanket Order Number

If a blanket number is available, the system will populate the Supplier Item applicable to the planned order based on the Item-Supplier combination. A value is displayed in this field only when Type is Blanket Order Release.

Price List

If specified, the system will populate the Price List (Amount Type set to List Price) or Discount list (Amount Type set to Price, Discount or Markup) applicable to the planned order based on the Supplier-Item combination. The system uses the list to calculate the item's unit price/discount %. When both price list and discount list exist, then both display (with a delimiter) and the system uses both for the price/discount % calculation.

A price list defines all the information necessary to price an item, including specific prices, discounts, and markups at different quantity levels.

Supplier Item

If available, the system will populate the Supplier Item applicable to the planned order based on the Item-Supplier combination. Supplier Item is the item number that the supplier uses to identify this item and contains additional information such as pricing information (Quote Price, Quote Date, Quote Quantity) that may be used to default Unit Price.

Document Group

The Document Group column groups planned orders by considering the Supplier, Ship-To, Bill-To, and Pricing Group. Records sharing the same Supplier, Ship-To, and Bill-To will be assigned the same sequentially generated numeric order (1, 2, 3, …), grouping the same document types.

Planned orders of the same type (Blanket Order, Purchase Order, or Requisition) from the same **Supplier, Ship-to, and Bill-to** are combined into single output documents with multiple lines. For Purchase Orders, the same **Pricing Group** is also considered**.** The same **Product line** is considered only for Requisitions.

See Requisition Grouping Rules on page 3234 to get more details on how the system groups planned orders.

Example: Two purchase orders with the same Bill-To and Pricing Group information from Supplier A and for delivery to Office A will

receive Document Group 1. However, a third purchase order with the same Bill-To and Pricing Group information, and also from Supplier A, but delivered to Office B, will be assigned to Document Group 2.

Planned Order

Displays the planned order number.

Planned Order ID

Displays the unique ID for the planned order.

You can review the selection displayed, select orders as needed, and select Submit for further processing.

Note Before selecting Submit, you can select one or more planned order records, and modify the Quantity, Unit Price, Discount %, Supplier, Ship-To, Bill-To, Due Date, Buyer, and Type.

After you select Submit, the system generates purchase orders, approved or unapproved requisitions, or blanket order releases according to the Type setting and option selected. When you submit orders successfully, the original planned orders are deleted accordingly. In addition, the **Planned Orders** view automatically refreshes and the submitted orders become unavailable in this view.

Price and Discount % Calculation

Depending on the document type proposed, the calculation of the Price and Discount % fields in the Firm Purchasing action can vary depending on the information available in the system:

- When Type is either **Approved/Unapproved Requisitions** or **Purchase Orders**: The system calculates the percentage based on the Supplier Price List (Amount type set to Price, Discount %, or Markup %) in conjunction with the fixed Discount % defined for the Supplier (if supplier is defined for the Planned Order).
- When Type the document type is a **Blanket Order Release**, the Discount % is populated from the available blanket order.

Note When the Advanced Pricing option is selected, the system calculates the Unit Price/Discount % based on planned order consolidation by planned volume within a Price calculation period. The system consolidates planned orders by item and supplier (and by Site as an option when this scenario exists).

First, the system checks the following conditions in order to identify which date to use in the Price calculation period:

- When the Price by Line Due Date checkbox is selected in Accounting Panel > Purchasing Control view, the system uses the planned order Due Date in order to determine the Unit Price / Discount % for a particular planned order.
- When the Price by Line Due Date checkbox is not selected in Accounting Panel > Purchasing Control view, the system uses Today's date (instead of the planned order due date) in order to determine the Unit Price / Discount % for a particular planned order.

Then, the system defines the calculation period as follows when:

- Only the Supplier price list (Amount Type set to List Price) is found and the planned order Due Date fits into the following formulas:
  - **Price by Line Due Date** checkbox **selected**:

    Start date <= Due date <= Expire Date; Start Date - price list Start Date, Expire Date - price list Expiration Date
  - **Price by Line Due Date** checkbox **unselected**:

    Start date <= Today's date <= Expire Date; Start Date - price list Start Date, Expire Date - price list Expiration Date
    When applicable, the system defines the calculation period as the Start Date minus the Expiration Date (the period between Start and Expire date).
- Supplier price list (Amount Type set to List Price) and Discount Table (Amount Type set to Price, Discount%, or Markup %) are found and the planned order Due Date fits into the following formulas:

- **Price by Line Due Date** checkbox **selected**:

  Start date E1 <= Due Date <= Expire Date L2; Start Date E1 - earlier price list Start Date among two dates, Expire Date L2 - latest price list Expiration Date among two dates)

- **Price by Line Due Date** checkbox **unselected**:

  Start date E1 <= Today's Date <= Expire Date L2; Start Date E1 - earlier price list Start Date among two dates, Expire Date L2 - latest price list Expiration Date among two dates)

When applicable, the system defines the calculation period as Start Date E1 - Expire Date L2.

- Only the Discount table (Amount Type set to Price) is found and the planned order Due Date fits into the following formulas:
  - **Price by Line Due Date** checkbox **selected**:

    Start date <= Due Date <= Expire Date; Start Date - price list Start Date, Expire Date - price list Expiration Date

  - **Price by Line Due Date** checkbox **unselected**:

    Start date <= Today's Date <= Expire Date; Start Date - price list Start Date, Expire Date - price list Expiration Date

  When applicable, the system defines the calculation period as Start Date - Expire date.
- Only the Supplier Items Quote price is found, the system includes any date within the calculation period (indefinite period and defined by the MRP planning horizon). There is no Start/Expiration Date for the Quote price.

Note When the Advanced Pricing option is not selected, the system applies the Unit Price/Discount % calculation to each planned order individually using the standard price/discount% calculation logic.

Requisition Grouping Rules

A: The planned order item in the Firm Purchasing grid belongs to the same **product line, site, supplier** (blank or non-blank), and **ship-to**, and the **Single Site Requisition** option in **Purchase Requisition Control** is **selected**.

B: The item in the Firm Purchasing grid belongs to the same **product line, supplier** (blank or non-blank), and **ship-to** but has different sites, and the Single Site Requisition option in **Purchasing Control** is **not selected.**

C: The system considers the Enforce Buyer to Line option in conjunction with the Single Site Requisition option in **Purchase Requisition Control**. The requisitions, approved or unapproved, will be grouped in a single requisition when:

- **Enforce Buyer to Line** is **not selected** and:
  - **Single Site Requisition** is **selected**, and the planned order item, site, ship-to, product line, supplier, and buyer are the same.
  - **Single Site Requisition** is **not selected** and the planned order item, ship-to, product line, supplier, and buyer are the same.

    Note The buyer on the single requisition header defaults from supplier records when available; otherwise, it is set to the Direct Admin Buyer in **Purchase Requisition Control** when specified, and to Buyer of the lines when the Direct Admin Buyer is blank.

Note The conditions in the list above also apply when the supplier is blank for all planned orders to be converted to a single requisition.

Note When the supplier in the Firm Purchasing grid is different, but the item has the same product line, site, and ship-to, the system converts the approved and unapproved requisitions into multiple requisitions.

Action Messages

Material Requirements Planning (MRP) generates action messages for all items with non-blank order policies. Action messages recommend the actions that a planner should take to balance supply with demand, such as rescheduling, canceling, or releasing orders.

When MRP detects imbalance between supply and demand, it generates action messages.

For example, when supply exceeds demand, MRP automatically reschedules or cancels planned orders and generates action messages advising you to de-expedite or cancel the open orders. If demand exceeds supply, MRP reschedules or creates planned orders, and generates action messages that suggest you expedite or create orders.

Action Messages displays the action messages MRP has generated for the item entered. You can double-click an action message in the view, or select an action message and select Open to launch a detailed page. You can then easily view the details about the message, or select Delete to remove the message.

Action Messages also allows you to choose Actions > (*Bulk*) Review/Update to handle action messages. The system can then automatically update production orders based on the action messages, or generate action requests for non-production orders and keep track of them.

Action Messages supports multiple views, which facilitates user operations. You can click the inverted triangle icon to easily switch between views.

Once you switch the view from one to another, the columns displayed in the **Action Messages** browse are updated accordingly.

Co/By-Products

MRP creates action messages for base processes and co-products, which the system displays in the Action Messages function. For the same co/by joint order set, the system may create different action messages based on the demand-supply of the co-products. Note the following:

- The Review/Update action cannot update co/by production orders. To update co/by production orders, launch the Production Orders browse.
- If you select a co/by order in the **Action Messages** hybrid browse, then try to run the Update Order option, the system displays an error message.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the action message you are working on, including Site, Item, To Date, and Due Date. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists the following fields:

Site

The site this action message applies to.

A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Item

The item this action message applies to.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

Description 1

Primary description of the item.

Description 2

Extra or supplementary information for the item.

Buyer/Planner

The person responsible for planning and ordering this item.

Purchase/Manufacture

The code indicating how this item is typically processed by the system. The Purchase/Manufacture code controls how the system explodes forecasts, plans and creates orders, and calculates costs for the item. It affects Material Requirements Planning (MRP) and Distribution Requirements Planning (DRP).

Valid code options include the following:

- P (Purchased). The item is usually purchased. MRP uses the purchasing and inspection lead times to calculate planned order release dates. MRP and cost calculations do not explode purchased assemblies, even when a product structure exists. Any routing/process operations are ignored. You can also manufacture an item designated as purchased. The product structure and routing are accessed if a production order is created for the item.
- D (DRP). The item is usually supplied internally from another site. DRP uses the item's source network to determine where to generate requirements. It uses the transport lead time and shipping schedules to calculate the date when orders must be shipped from the other site. Any routing or BOM codes entered for a DRP item are for reference only. Cost calculations do not explode DRP items.
- M (Manufactured). The item is normally manufactured. MRP uses the manufacturing lead time to calculate planned order release dates. You can also purchase a manufactured item.
- R (Routable). The item is a special type of manufactured item, made only when needed by an upper-level assembly. A production order for the routable item is created automatically when a production order for its parent is released. The production order number is the same, but the lot ID is different. This lets the system track the two orders separately but accumulate the costs.
- C (Configured). The item is configured to order. When a sales quote or order is entered, the system prompts the order taker to select from a list of configuration options. Valid options are defined in **Configured Structures**.
- L (Line manufactured). The item is manufactured repetitively on a single or on multiple production lines. You can approve MRP planned orders for items with this code using Planned Repetitive Schedule Approval.
- W (Flow scheduled). The item is normally manufactured on a flow production line. When you use Import MRP Orders to Schedule to add MRP planned production orders to a flow schedule, you can optionally limit the selection to items with this purchase/manufacture code.

- F (Family). A family item typically represents a generic category that is used for planning only; it is never actually made or stocked. For multilevel master scheduling, family items are set up with a planning bill.

Purchasing Buyer

The buyer for the item.

To date

The recommended due date for this order or requisition.

Detail

More details about the action message are displayed in the Detail panel.

Detail

A general message to print on each of the documents printed; for example, "Cancel Intersite Order."

Order

The order, requisition, or DO request this action message is for.

Each order is uniquely identified by a combination of the order number and line item or lot ID. These identify the order this action message applies to.

Line/ID

The line item or lot ID this action message applies to.

Note For DO requests, it could be From/To Site.

Due Date

The due date for this order or requisition.

Action Quantity

The item quantity involved in this recommended action—that is, the order or requisition quantity.

Bulk Review/Update Action

Choose Actions > (*Bulk*) Review/Update to handle action messages.

The **Review/Update** window consists of three panels: Options, Criteria, and Action Messages. The Options and Criteria panels enable you to enter search criteria and default action settings. The Action Messages panel displays search results, and allows you to take actions specific to action messages.

Options and Criteria

Set the following options or criteria as needed.

Default Action

Choose from the following as needed:

- Delete Message: The system only removes the action messages. This is the default value for this field.
- No Action: The system does not take any action upon the action messages.
- Update Order: The system updates production orders as described in section "Action Messages and System Behaviors" below and then deletes the action messages.

  Note For an action message for which the system could not determine what action should be taken, the system does not update any orders in the system even though you choose Update Order here. The system just deletes the message in this case. You need to take manual intervention for it.

The value you set in Default Action is used as the default action value in the Action Messages grid below. You can then manually edit the Action field for each message in the Action Messages grid as need.

Default Action Request Queue

When an action message is for an order that involves suppliers or other sites, then the system would create an action request instead of updating the order directly. An action request queue is a holding area where you define indicate who is responsible for the action request.

You can enter or click the look-up to choose a generalized code. You can also leave this field blank here, but set the Action Request Queue field for the messages in the Action Messages grid separately.

This field is used when the system action is to create an action request. The value you set in this field is used as the default action request queue value in the Action Messages grid below. You can then manually edit the Action Request Queue field for each message in the Action Messages grid as need.

Note The field value you use here must be predefined in **Generalized Codes**. When predefining values, select acr_que for Field Name.

Search Criteria

This field is read-only. It defaults from the search criteria you entered in the **Action Messages** browse.

Include Base Process Orders

Select this option to include MRP-planned orders for base process items.

Show Phantom Items

Specifies whether to list action messages created for phantom items.

The Phantom field on each item indicates whether this item is normally stocked or simply put together as part of a higher level assembly.

When Phantom is Yes, it identifies this item and its product structure as a phantom. These are often used for transient assemblies or intermediate products, ones that are not (and often cannot) be received into stock but instead go directly into the next higher assembly or product.

MRP processes phantom items in the same way as other items. You just normally do not have any in stock. When a production order requires a quantity of a phantom component, it blows through the phantom and lists its components on the production order picklist. However, if there is any of the phantom in stock, it plans to use the phantom stock first.

If you designate an item as a phantom, and want to master schedule that item to, for instance, plan kits or buildable sub-assemblies, you must enter the phantom master schedule order as status Allocated or Released to maintain the order in the system.

The Phantom value set in **Items** is used as the default for all sites. It may be changed manually for any site as needed.

Since phantom items are not normally manufactured or stocked, this field is normally left as No.

Action Messages

After you set the search criteria, options, and click Search, the action messages that meet the criteria are displayed in the Action Messages grid.

This grid includes the following columns:

- Action
- Site
- Item
- Description
- To Date
- Action Message Detail
- Order
- Line/ID
- Action Quantity
- UM

- Due Date
- Purchase/Manufacture
- Action Request
- Action Request Queue
- Buyer/Planner
- Purchasing Buyer

When a message record is selected, the Action field is editable. The Action Request Queue field is also editable when the record is to create an action request. The Action and Action Request Queue fields default from the Default Action and Default Action Request Queue options above. You can modify them as needed.

If you choose Update Order in Action for an action message, but the system finds it needs to create an action request for this message and the Action Request Queue field is blank, the record update fails with an error message reported. However, if Action is set to Delete Message in this case, it does not matter whether the Action Request Queue field is blank or not.

You are advised to set up all necessary configurations for Action Requests; for example, Enable Activity Tracking/Alert for Action Request Queue. After the system automatically creates an Action Request, there are notifications sent to the required users. If not, users need to access **Action Requests** to find the requests manually. If users do not use **Action Requests**, they can only delete the action messages that are supposed to create action requests.

Once you select Submit, the system applies suggested actions to production orders and creates action requests for a purchase order or an intersite request if necessary. These records whose action requests are successfully created are kept in the grid after the submission, but the checkboxes are disabled.

The Action Request column displays the successfully created action requests. You can select any action message that has an action request record and check them in the drill-down link—that is, the **Action Requests** hybrid browse.

Action Messages and System Behaviors

The table below lists the messages that MRP generates, along with a brief explanation of each message. In the explanations, a supply order can be either a production order, a purchase order, or an intersite request.

The system can only create orders with status F, and updates orders whose status is not P or C.

Action Message	Explanation	System Action
Beginning Available Less Than Zero	The quantity on hand less safety stock is negative.	No action.
Beginning Quantity Less Than Zero	The initial nettable quantity on hand is negative.	No action.
Cancel	A scheduled supply order is no longer needed and should be deleted.	Deletes the production order.
		Creates an action request for the purchase order or inter-site request.
Create	A supply order should be created to satisfy a negative projected on-hand balance. This message is only generated if Plan Orders is No or if a new requirement appears within the time fence.	If Purchase/ Manufacture = M or L: creates a firm planned production order.
		If Purchase/ Manufacture = P or D: creates an action request.
De-Expedite	A scheduled supply order is due before it is needed and should be delayed, or demand rescheduled to an earlier date.	Changes the due date of the production order and recalculates the release date.
		Creates an action request for the purchase order or intersite request.
Expedite	A scheduled supply order is due after it is needed and should be rescheduled to an earlier date, or demand rescheduled to a later date.	Changes the due date of the production order and recalculates the release date.
		Creates an action request for the purchase order or intersite request.
No Source Of Supply	A valid source network is not available for the date a DRP item is required. Either the item or item-site	Creates an action request for the item.

Action Message	Explanation	System Action
	planning data does not reference a source network, or the source network is not effective on that date.	
Past Due	Scheduled supply order receipt is past the due date.	No action for the production order.
		Creates an action request for the purchase order or intersite request.
Planned Order Count Exceeds Maximum	An item/site combination generated the maximum number of planned orders. MRP currently cuts off the creation of orders for an item/site combination at 1000. Calculation for other items continues. This prevents runaway calculations caused by, for example, an incorrect item order quantity.	No action.
Quantity Exceeds Maximum	A supply order was created for a quantity greater than the maximum quantity set in the item planning data.	No action as it is just applied to planned orders.
Quantity Less than Minimum	A supply order was created for a quantity less than the minimum quantity set in the item planning data.	No action as it is just applied to planned orders.
Release Due For	A supply order should be released. You can release both planned and firm-planned orders. Approving the order changes its status to firm planned. Only when WO Activity Threshold in **Production Control** is Released, the system displays this message. Use the Order Release Horizon field in the MRP panel of **Planning Control** to specify	Releases the production order.
		Creates an action request for the intersite request.

Action Message	Explanation	System Action
	the number of days prior to the order release date for this action message to display.	
Release Past Due For	A supply order was not released when it was due. It now needs to be released and expedited, or the demand must be rescheduled for a later date. Only when WO Activity Threshold in **Production Control** is Released, the system displays this message.	Releases the production order, sets the release date to today, and then recalculates the due date.
		Creates an action request for the intersite request.
Shipment Due	A shipment for an intersite request item is due. Action should be taken at the source site to ensure that the order is received on time.	Creates an action request for the intersite request.
Shipment Past Due	A shipment for an intersite request item is past due. You should either delay the orders that created the requirement for the item or expedite them when the item does arrive.	Creates an action request for the intersite request.
Time Fence Conflict	Unsatisfied material requirement exists inside the planning time fence for the item. MRP will not create planned orders within the time fence. You should either manually schedule and expedite orders to fill this demand or delay fulfillment of the requirement that created the demand.	If Purchase/ Manufacture= M or L: creates a firm-planned production order.
		If Purchase/ Manufacture = P or D: creates an action request.

According to the table above, when the system needs to create action requests, it defaults values to the following fields in the new requests:

Note For details about action requests, refer to the online help for Action Requests. You can enter Action Requests in the search box of the online help to easily locate the related documentation.

Field	Value	Explanation
Contact Type	Other	The system uses "Other" as the request contact type.
Contact Name	Logon User Name	This field indicates the one raising the action request. The system uses the logon user name who is performing Action Message Review/ Update.
Email	E-mail address for Contact Name	The email address is determined by the logon user who has email address information (in the **Users** hybrid view). If no email address is found, the action message update fails.
Summary	Pattern: "From Action Messages:" + *Action Message Detail*	The system combines the following information and displays it in Summary: • Starting with the string "From Action Messages:" • Information from Action Message Detail Summary enables you to know where the action request is raised and provides a brief overview regarding what the request is.
Description	Pattern: *Field: Content*	Lists detailed information: {Item: item number}, {Site:

Field	Value	Explanation
		site}, {To Date: date}, {Order: order number}, {Line/ID: line}, {Action Quantity: quantity}. Below is an example: Item: 10101, Site: 10-100, To Date: 09/09/2020, Order: PO10101, Line: 1, Action Quantity: 100
Status	Open	Initial action request status.
Queue	Action Request Queue chosen by users	Action Request Queue is a generalized code for acr_que. Values should be predefined for action messages. You can use the browse to search for the required queue name. The queue indicates where this action request is in. If you use the standard Alerts functionality, the system will send alerts to specific users when creating action requests and assigning to queue.
Item	Action Message Item	The item number for which the Action Message Update operation is performed.
Referenced Documents - Type	The order type passed to request	If the action request is about to process an existing order, the system links the order to the referenced document. When the order number is linked, you can open and

Field	Value	Explanation
		modify the document when necessary. Type refers to the order type. For example, Type is PO for a purchasing order.
Referenced Documents - Number	Order Number	For example, the number of a purchasing order.
Referenced Documents - Date Added	The date that action request is created	Refers to the date when the Action Message Review/ Update operation is performed.
Referenced Documents - Added By	Logon User ID	This field indicates the one raising the action request. The system uses the ID of the logon user who is performing Action Message Review/ Update.

Seasonal Build Inventory

In **Forecasts**, you record the number of units of a particular item you expect to ship each week from a particular site. MRP uses this information to schedule production in the absence of actual sales demand. The forecast can then be consumed (replaced by sales demand) by incoming sales orders or customer schedules. Forecasts are used to develop the master production schedule and to calculate material requirements. Forecasts appear in MRP Summary Inquiry as gross requirements and in Master Schedule Summary Inquiry as forecasts. The Operations Plan module uses forecasts for end items and family items in all plan calculations.

Seasonal build forecasts are manually entered inventory requirements planned by MRP but not available to promise or consumed by sales orders until seasonal forecast is reduced. For each Item Number, Site, and Year, enter the expected weekly shipments expressed in the item's units of measure. Each weekly period starts on a Monday. There are 52 periods in a year. Seasonal build forecasts specify the Date and the Seasonal Inventory quantity, the number of units you want accumulated at that Date. For example, to have 1000 units stockpiled for December, you could enter a progressively larger Seasonal Inventory in the months prior (250, 500, 750 and 1,000 in September, October, November, and December, respectively). MRP would plan orders for 250 per month. Forecasts are usually derived from a product line plan, then used to develop the operations plan and the master production schedule. They are then periodically adjusted based on actual results or changes in the business plan. Seasonal build forecasts are planned, and you can delete them if they are no longer applicable. MRP considers both actual sales orders and net forecast to be sources of demand. Net forecast (the unsold portion of the forecast in any period) decreases as sales orders are booked. Sales consume the forecast in the time period in which the order is due. Operations Plan uses gross forecasts to calculate target inventory levels and production requirements. For Operations Plan, you can enter forecasts for both family items and end items. MRP reads the difference between successive Seasonal Inventory quantities as a demand in addition to sales orders and sales forecasts, but the quantity produced is not Available to Promise (ATP) until a decreased quantity is specified in Seasonal Build Inventory. However, the inventory can be allocated and shipped if you need it, regardless of ATP. Sales orders that were not forecast are called abnormal sales. For example, a freak snow storm in May can lead to unpredicted sales of snow shovels. These sales can be made without consuming forecast. Since forecasts are entered for one-week periods, actual shipments seldom correspond to the forecast for a single one-week period. You can improve forecast accuracy by setting Sales Order Control to consume forecasts over a longer period. If you sell more than you forecast in one period, the system checks for unsold forecast in past and future periods before generating new manufacturing orders. When you choose to consume backward, MRP continues to

plan past due unsold forecast amounts. If the forecast was wrong and you no longer expect to sell this amount, update the forecast. Seasonal build forecasts are useful when production takes place long before anticipated shipments. Master Schedule Orders or Repetitive Schedules could address this need, but, lacking a demand, MRP generates action messages to cancel or de-expedite orders. **Seasonal Build Inventory** lets you enter this demand.

You can create seasonal build forecasts for items by site. After you click New in **Seasonal Build Inventory**, you can set Site and Item in the main panel. The system automatically displays the existing seasonal build inventory records for the specific site and item in the Target Inventory panel. You can continue to define a new date by which you need items in inventory, as well as a seasonal inventory quantity needed by that date. You can also modify or remove some records in this panel if they are no longer applicable.

Note

The system displays a yellow triangle icon in the Indicator column for the last target inventory record of each item-site combination, if the seasonal inventory quantity is larger than 0 (zero) in this record. A tooltip stating "Inventory Is Not Released" also pops up when you hover the mouse point over the icon.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the seasonal build inventory record you are working on, including Site and Item. These fields are read-only and stay in view even when you scroll down the page.

Main

Site

Specify the site this seasonal build forecast applies to.

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information in the system is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site or by groups of sites.

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

Item

Specify the item this seasonal build forecast applies to.

Item codes uniquely identify items or products—raw materials, purchased or manufactured intermediates, finished items, packaging materials, whatever. Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Sometimes inventory levels for an item must be increased, usually anticipating some projected demand. Seasonal build forecasts may be entered for finished products or components—you may want to increase inventory levels for service or replacement items before discontinuing a product.

Seasonal build quantities are not included in Available to Promise (ATP) until the seasonal inventory level decreases, so seasonal requirements are normally managed using the master schedule. Only in unusual situations will you want to build up inventory that cannot be sold.

Description 1

Primary description of the item.

Description 2

Extra description of the item.

Target Inventory

The Target Inventory panel displays the existing seasonal build inventory records for the specific site and item.

You can modify or remove some existing records when needed, or select New to define more records with new dates and seasonal inventory quantities.

Date

Enter the date when this level of inventory is required in stock to meet the seasonal requirement.

Seasonal build forecasts are entered as a discrete inventory quantity needed on hand as of a specified date. This quantity is not included in available to promise (ATP) until the seasonal build quantity decreases.

If you need an extra 600 units available on December 1, you may choose to build these during the previous 3 months at a rate of 200 per month. Enter this as a seasonal build forecast for:

- September 30, order period 39: 200 total units required
- October 30, order period 44: 400 total units required
- November 22, order period 47: 600 total units required

- December 1, order period 48: 0 units required

MRP plans to build only the incremental quantity in each month (200). The decrease in build quantity from 600 to 0 releases the 600 to ATP.

Note Since MRP sums (nets) multiple seasonal build records within an order period, ensure that the seasonal build forecast for zero is in an order period (48) following the period (47) with the forecast for the final quantity of 600. If the forecasts for 600 and zero are in the same order period, MRP does not create orders for the final 200 units and only the 400 previously built are released to ATP.

Alternately, this could be done by entering three master schedule orders. The quantity would appear in ATP each month.

Reference

An optional reference code for this seasonal build requirement, usually identifying the reason for the build, Sale or End Of Life.

Sometimes inventory levels for an item must be increased, usually anticipating some projected demand. Seasonal build forecasts may be entered for finished products or components as you may want to increase inventory levels for service or replacement items before discontinuing a product.

Seasonal Inventory

The total number of units of this item needed in inventory at this site as of the specified date. This quantity should not include safety stock.

Seasonal build forecasts are entered as a discrete inventory quantity needed on hand as of a specified date. This quantity is not included in Available to Promise until the seasonal build quantity decreases.

If you need an extra 600 units available on December 1, you may choose to build these during the previous 3 months at a rate of 200 per month. Enter this as a seasonal build forecast for:

- September 30: 200 units
- October 31: 400 units
- November 30: 600 units
- December 1: 0 units

MRP plans to build only the incremental quantity in each month (200). The decrease in build quantity from 600 to 0 releases the 600 to Available to Promise (ATP).

Alternately, this could be done by entering three master schedule orders. The quantity would appear in ATP each month.

UM

The unit of measure for stocking and planning this item. The default is EA (each). This field is validated against predefined values entered in **Generalized Codes** for field pt_um, if any.

The item unit of measure is used for inventory quantity on hand, forecasts, product structures, routing operation run times, manufacturing orders, planning, and reporting. It defaults to all inventory transactions for this item, but you can change it if needed.

When an inventory transaction references a unit of measure other than the item unit of measure, the system looks for a conversion factor defined in Unit of Measure . For example, the item may be held in inventory in the unit of measure EA, but sold or purchased in a case (CS) of 25. You can define a conversion that specifies the number of units held in a case. For a case that holds 25 units, the Alternate UM is CS and the UM conversion is 25.

Note While you do not have to predefine conversion factors, doing so can help minimize errors. When a conversion factor exists, the quantity is automatically converted and displayed for verification.

If you change an item's unit of measure, the system uses the new unit of measure when new inventory transactions occur. However, quantity values, such as quantity on hand, are not automatically updated to match the new unit of measure. You may need to modify the inventory, product definition, and planning information yourself.

If you are setting up base processes for use with co-products/by products, set the unit of measure of the base process to the same value as the unit of measure associated with its BOM/formula.

Production Scheduling Automation

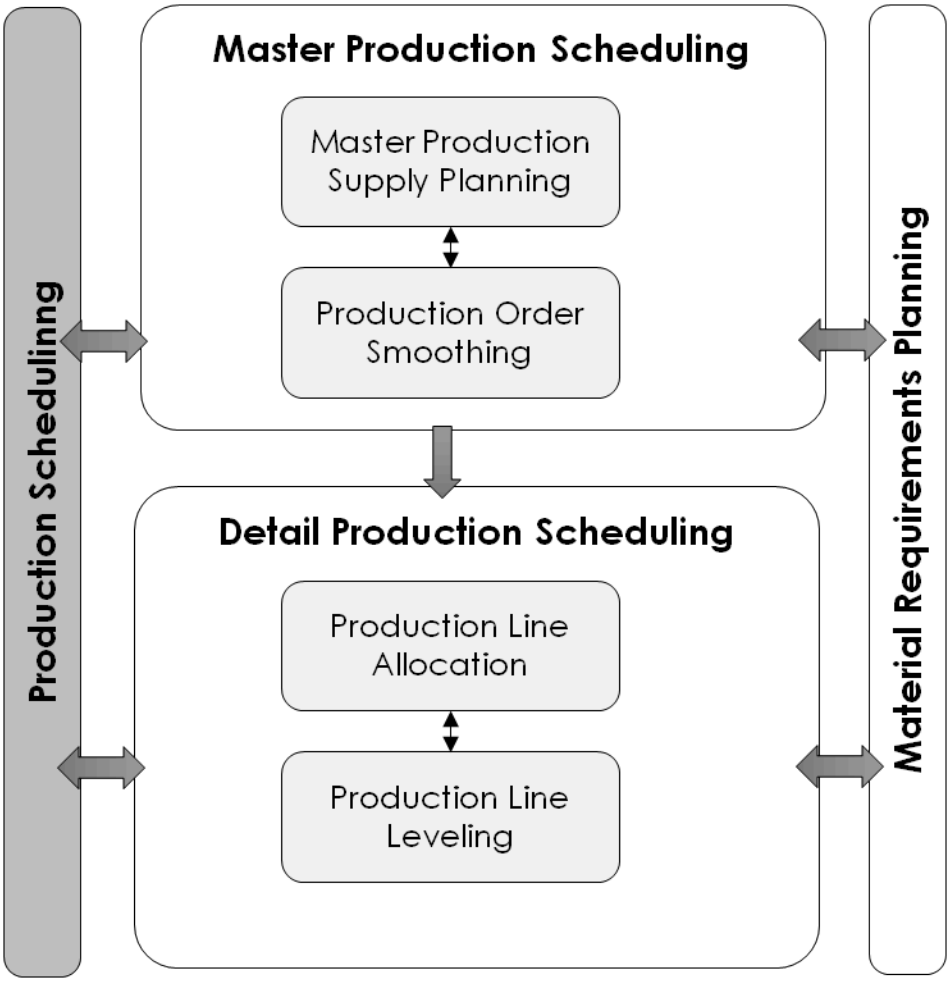
Many businesses find that production fluctuations lead to waste of time and resources. This is because equipment, workers, inventory, and other elements are not prepared for peak production. To prevent fluctuations in production, it would be ideal to level the production process by item. Furthermore, to aid in balancing the load, the firmed planned orders that are leveled should be allocated to different production lines according to pre-assigned percentages.

To improve production efficiency, production lines should be leveled. Different leveling priorities are configured for the scheduling types at each production line. For example, during order scheduling, OEM orders take precedence over export orders. Besides leveling priority, capacity limitation and setup time are also part of scheduling factors.

Production Scheduling Automation applies only to the items for which the Master Schedule field in **Items** is selected. Typically, this field is selected for items that require human judgment to evaluate the schedule and its implications for capacity, material, cost, and customer service. Top-level items are normally master scheduled.

Note The setting of Master Schedule in **Items** is used as the default for an item at all sites. You can set site-specific Master Schedule values for the item by creating exception records on the Site Planning Exceptions sub-panel.

With Production Scheduling Automation, you can obtain a precise, realistic execution plan before investing time and efforts on manufacturing. Production Scheduling Automation ensures a shorter lead time, more flexibility, decreased response time, and increased value-added activities. This also helps reduce the non-value added portion of the cycle time, and decreases the waste of items in queue.



Production Scheduling Automation starts with the process of creating a master production schedule and continues through the process of creating detailed production schedules for production using finite scheduling. The diagram above illustrates Production Scheduling Automation, which consists of four functions:

1. Master Production Supply Planning

   This function automates the process of creating the master schedule. The system first identifies the sources of demand for items in a domain for a preset horizon. It then creates production orders, taking into account different kinds of demands, existing inventories, and supplies. Available supplies are balanced out to reach a Net Demand. The system creates firmed production orders to satisfy the Net Demand in a manner similar to the Lot-for-Lot order policy, for the demands identified. Each production order is assigned relevant scheduling rules, based on the demand it supports.
2. Production Order Smoothing

   This function distributes master production orders within a leveling window. Order smoothing, also referred to as demand smoothing, is

a methodology in which a production order is divided into two or more orders to redistribute the workload over different time periods.
In this process, the system evenly smooths each order across the scheduling horizon. Demands from different sources, such as OEM orders and export orders, may have different order smoothing rules such as forward or backward smoothing.
The scheduling type, demand type, and smoothing key are the main parameters used to determine the smoothing rule for a production order.

3. Production Line Allocation

   This function distributes scheduled production across production lines. The system allocates production orders to production lines, according to the predefined allocation percentages for the production lines. This approach helps balance workload among the production lines.

4. Production Line Leveling

   QAD Adaptive now supports the following leveling methods:

   - EPEI: Every Part Every Interval
   - FinFwd: Finite Forward
   - FinMix: Finite Capacity By Priority-Item Mix
   - FinPrio: Finite Capacity by Priority
   - ItemMix: Item Mix

   For example, when Finite Capacity By Priority Leveling is used, the system schedules production using finite capacity scheduling. The system levels daily schedules for a production line based on the production line capacity. In other words, production orders are rescheduled on the production line with capacity constraints considered.

Master Production Supply Planning

How to balance demand with supply, optimally and consistently, is one of the most common problems that manufacturers are facing across all industries. Manufacturers are always faced with the challenge of determining what to produce, when to produce, and in what quantities.

Managing the supply and demand is not easy. It takes careful planning and requires systems that are capable of predicting and scheduling. When companies fail to tackle this challenge effectively, they suffer various consequences like increased production costs, excessive and costly inventory, cash flow difficulties, and failure to meet planned business goals.

With master production supply planning, manufacturers can use planning data and real-time information to identify sources of demand, adjust supply or demand, and allocate available products and resources. This feature enables companies to create a master production schedule to

best satisfy the demand using available supply, while meeting general business objectives of profitability, productivity, and competitive customer lead times.

DSCP and Master Production Supply Planning

During master production supply planning, the system first identifies the sources of demand for items in a domain for a preset horizon. It then creates production orders, taking into account different kinds of demands, existing inventories, and supplies. Available supplies are balanced out to reach a Net Demand. The system creates firmed production orders to satisfy the Net Demand in a manner similar to the Lot-for-Lot order policy, for the demands identified. Each production order is assigned relevant scheduling rules, based on the demand it supports.

The past-due demand or projected quantity on-hand (QOH) should be considered in Production Scheduling Automation.

Both Demand and Supply Chain Planning (DSCP) and master production supply planning help create master production schedules. DSCP features advanced techniques for calculating master production schedules, but it does not consider the production line capacity. You can choose to run DSCP or master production schedule as needed:

- DSCP

  After running DSCP, you can import the master production schedule and run **Production Scheduling Automation** with Rebuild Schedule set to No. Then the system can smooth the master production schedule, allocate orders to production lines, and level the orders based on capacity constraints. However, for the DSCP-imported orders, the system cannot identify the priorities of orders for the same item because the demand characteristics get lost when the orders are imported into the core ERP.

- Master production supply planning.

  You can run **Production Scheduling Automation** with Rebuild Schedule set to Yes, the system can identify the schedule types of the original demands for the same item to determine order priorities. It can then level the orders based on the priorities.

Process of Master Production Supply Planning

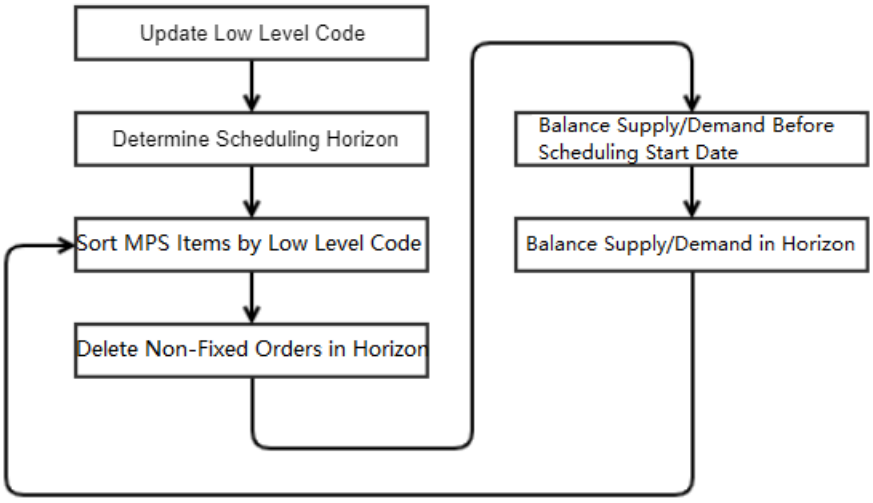
Production orders can be categorized into two groups:

- Fixed orders, including:
  - Orders in Firmed status and Auto Schedule set to No
  - Orders in Exploded, Allocated, or Released status
- Non-fixed orders, including:
  - Orders in Firmed status and Auto Schedule set to Yes
  - Orders in Planned status

The Auto Schedule field for a production order determines whether the **Production Scheduling Automation** program can re-schedule the order. Orders with Auto Schedule set to Yes can be rescheduled next time **Production Scheduling Automation** executes. By default, this field is set to Yes for all orders that are generated by the **Production Scheduling Automation** program. If you do not want certain orders to be rescheduled during **Production Scheduling Automation**, you can manually set the Auto Schedule field for them to No. Alternatively, you can set Auto Schedule to No when running **Production Scheduling Automation**. Then the system sets the Auto Schedule field to No for all production orders generated during **Production Scheduling Automation**.

When performing **Production Scheduling Automation** at a site, the system uses the control settings defined for the specific site if any. If there are no settings dedicated to this site, the system uses the common scheduling settings specified on the Production Scheduling Automation panel in **Planning Control**.

The system performs **Production Scheduling Automation** by site, so the production plan created for one site is completely independent from the inventory, demand, and supply at other sites. You can execute **Production Scheduling Automation** for several sites in succession, but cannot generate one plan for these sites as a group.

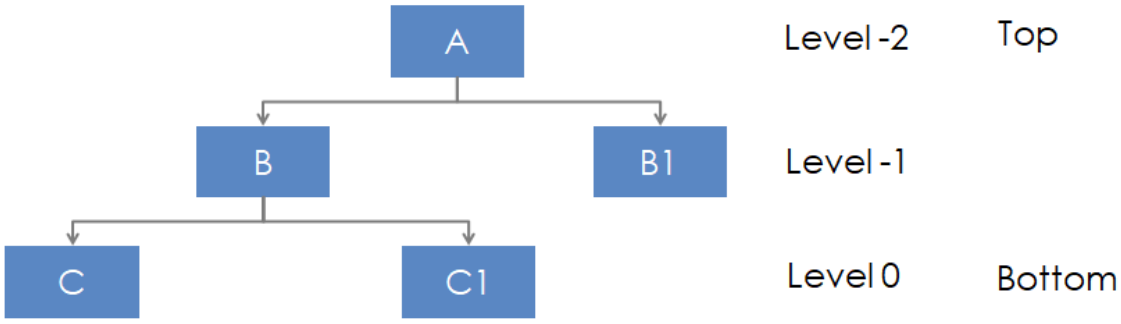


The flowchart above illustrates the master production supply planning process, which consists of the following procedures:

1. The system updates low-level codes for items.

   The components at the lowest level in a product structure are assigned a low-level code of 0 (zero). Components at upper levels are assigned low-level codes of -1, -2, and so on from bottom to top.

For example, item A is the parent item in a product structure, which has component items B and B1, and items C and C1 are component items of item B. In this case, items C and C1 are assigned the low-level code 0, while items B and B1 with -1 and item A with -2.



Since the low-level codes of items may change during item planning, product structure update, MRP, and DRP transactions, the system automatically updates low-level codes for items before performing Production Scheduling Automation calculations. This makes sure that these codes conform to the onsite situation.

2. The system determines the scheduling horizon for the site.

   The Time Period sub-panel in **Planning Control** lists the general scheduling horizon settings of domains or sites. You can define site-specific settings on the Site Leveling Exceptions sub-panel.
   For a certain site, the system first checks whether any specific settings are configured for the site on the Site Leveling Exceptions sub-panel. If not, the system uses the general horizon details defined on the Time Period sub-panel.

3. The system sorts all master production schedule (MPS) items for the designated sites by low-level codes.

   MPS items refer to the items that meet the following conditions:

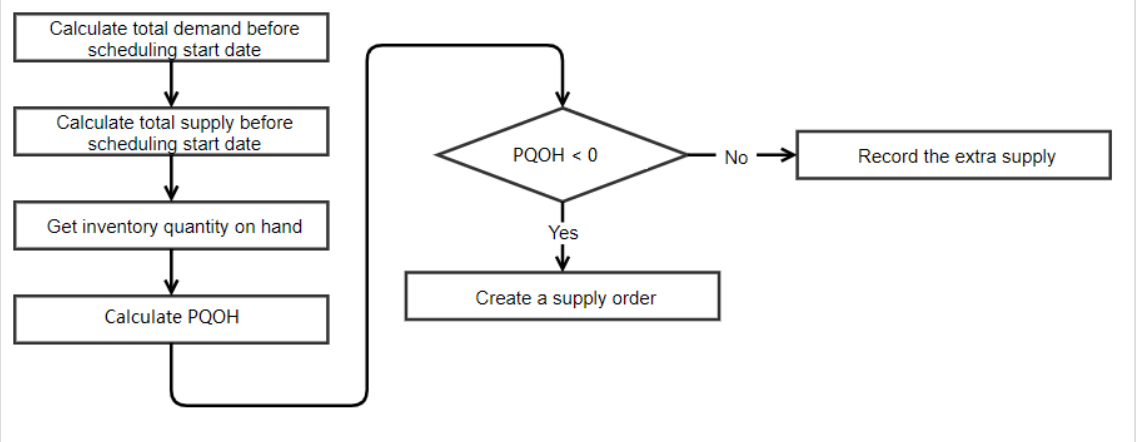
   - Master Schedule is selected in **Items** (item-site or item planning data).
   - Purchase/Manufacture code is not Family (F), DRP (D), Purchased (P), or Routable (R).
   - Phantom is not selected, which indicates the item is not a global phantom item.

4. The system deletes all non-fixed orders that fall in the scheduling horizon.
5. The system balances supply and demand for MPS items based on their low-level codes from top to bottom.

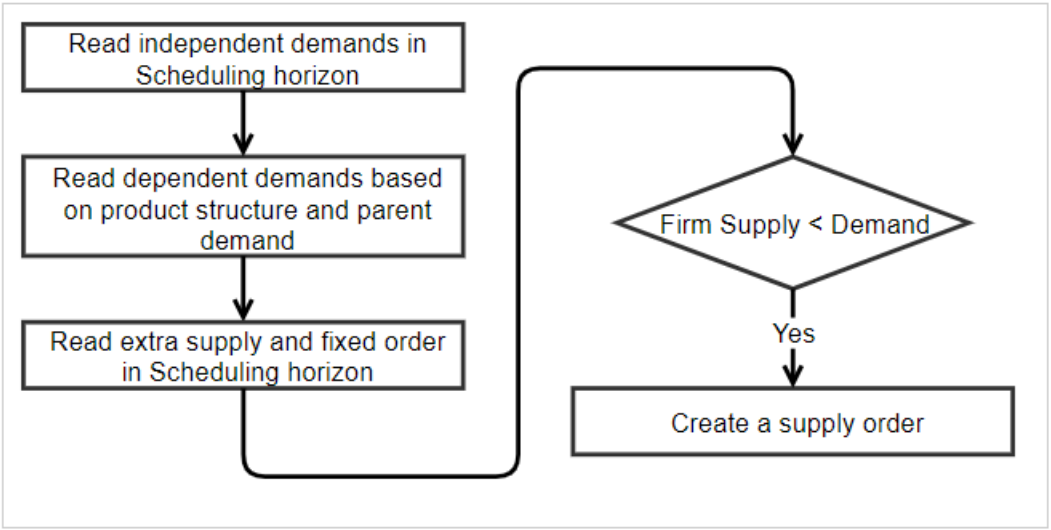
   The supply includes nettable inventory, purchase orders, distribution orders and fixed production orders.

a. The system first balances supply and demand before the scheduling horizon start date:
   i. Calculates the total demand before the horizon start date.
   ii. Calculates the total supply before the horizon start date.
   iii. Obtains the inventory quantity on hand.
   iv. Calculates the projected quantity on-hand (PQOH).
   v. Creates a supply order when the PQOH is less than 0 (zero); or records the extra supply when the PQOH is greater than 0 (zero).

Balance Suppy/Demand Before Scheduling Start Date



b. The system then balances supply and demand in the scheduling horizon:
   i. Reads the independent demands in the scheduling horizon.
   ii. Reads the dependent demands based on the product structure up to the higher-level MPS item.
   iii. Reads the extra supply and fixed orders in the scheduling horizon.
   iv. Creates a supply order to meet the demand when the calculated supply is smaller than the calculated demand.



For each MPS item, you need to consider all independent demand for the item as well as the dependent demand that comes from all items up to the higher-level MPS item.
Using the LFL order policy, the system creates new production orders to achieve balance between supply and demand.
The system plans items that are configured with an order policy of Gross Requirements Calculation (GRC) or One Time Only (OTO) by using the specified order policy, but plans all the other items by using the LFL order policy.

Note If an item is defined with the order policy of GRC but it is a co-/by-product, or for the base process, the system plans the item using the LFL order policy.

Examples
There are three items, 02200, 52200, and 52201. Item 02200 is the parent item in the product structure, with 52200 serving as its component and 52201 serving as the component of 52200. The detailed item settings are as follows:

Level	Item	Quantity Per	Item Schedule Type
Parent	02200	-	OEM
.2	52200	2.0	-
..3	52201	2.0	-

Example 1 – Both forecast demand and sales demand exist for an MPS item.

Assume that you have set Schedule Type to VIP for customer 22C1000 in **Customer Schedule Type Assignment**, and item 02200 is an MPS item.
Now there is a sales order for customer 22C1000 on Feb 4, 2019, requiring 50 units of item 02200. There is a forecast for item 02200 on this day as well, on which the quantity is 140.

Demand				
Item	**MPS Item or Not**	**Due Date**	**Source of Demand**	**Quantity**
02200	Yes	02/04/2019	Forecast	140
02200	Yes	02/04/2019	Sales order	50

Now you can run **Production Scheduling Automation** with Rebuild Schedule set to Yes or run **Selective Master Production Supply Planning**. After performing master production supply planning, the system generates supply orders like the following:

Note The order numbers and due dates below are for reference only, which may vary according to the actual circumstances.

Result				
Order	**Item**	**Due Date**	**Quantity**	**Schedule Type**
TMP00001	02200	02/04/2019	90	OEM
TMP00002	02200	02/04/2019	50	VIP

Since the sources of demands are different, the system generates two supply orders:

- Order TMP00001: to meet the forecast demand
- Order TMP00002: to meet the sales demand

The system also attaches schedule types to these orders, which helps determine order priorities during production line leveling.
Example 2 – There is independent demand for the MPS component and non-MPS parent.
There is a sales order on Feb 4, 2019, requiring 50 units of item 02200. Besides, there is a forecast for item 02200 on this day, on which the quantity is 140. Items 02200 and 52200 are non-MPS items, while item 52201 is an MPS item.

Demand				
Item	**MPS Item or Not**	**Due Date**	**Source of Demand**	**Quantity**
02200	No	02/04/2019	Sales order	50
02200	No	02/04/2019	Forecast	140

Demand				
Item	**MPS Item or Not**	**Due Date**	**Source of Demand**	**Quantity**
52200	No	02/04/2019	-	0
52201	Yes	02/04/2019	-	0

Assume that you create a record in Order Rule Overrides for this sales order, setting Schedule Type to VIP, and then perform master production supply planning. The planning result is similar to the following:

Note The order numbers and due dates below are for reference only, which may vary according to the actual circumstances.

Result				
Order	**Item**	**Due Date**	**Quantity**	**Schedule Type**
TMP00003	52201	02/01/2019	200	VIP
TMP00004	52201	02/01/2019	360	OEM

Since items 02200 and 52200 are non-MPS items, the system generates two supply orders for item 52201 to meet the demand for item 02200, with different schedule types attached for future use.

6. The system repeats procedures 3 through 5 for every item.

Demand Calculations

Master production supply planning acts on two types of demand: independent demand and dependent demand.

Independent demand is demand for an item that is unrelated to the demand for other items. It is represented through forecasts and sales orders and includes demand for items such as end products, spare parts, service items, and replacement items. These include master scheduled items such as end products, as well as non-master scheduled items such as spare parts and service items.

Dependent demand is directly derived from the demand for other items. The system uses the master production schedule (MPS) and product structures to calculate dependent demand for component items.

The system considers the following as sources of independent demands for an item:

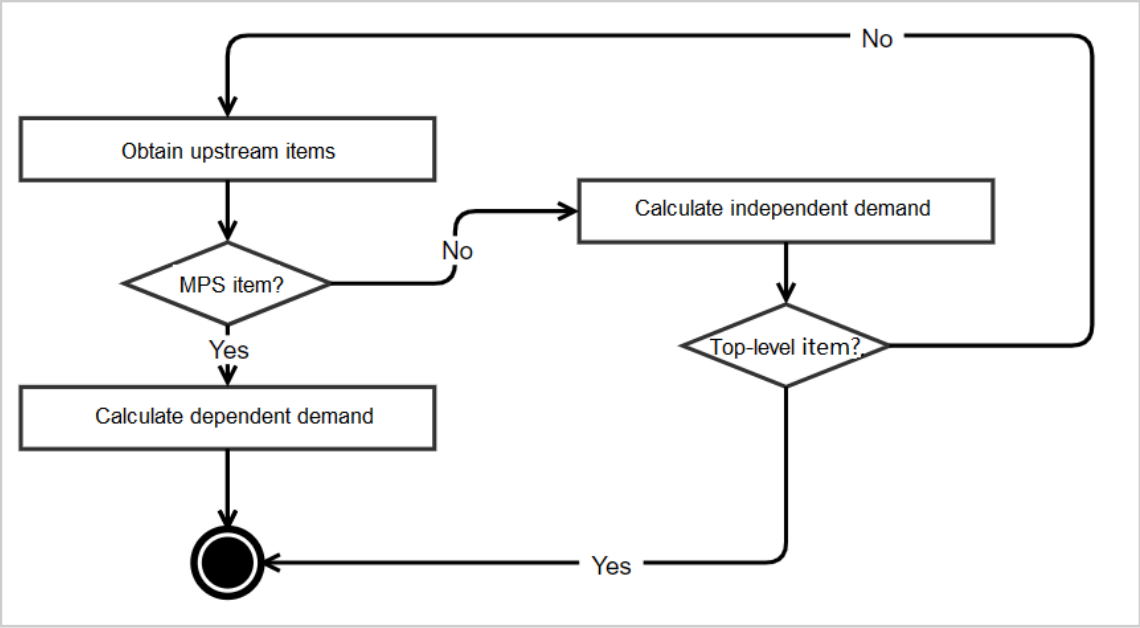
- Forecasts
- Sales orders
- Customer scheduled orders from a required ship schedule
- RMA shipping

- Material orders
- Safety stock
- Seasonal build
- Production forecasts
- Inter-site requests

Note The system does not consider safety stock as a demand for GRC items.

Calculating Demands of Upstream Items

The system calculates the demands of upstream items according to the following flowchart:



The system calculates the demands of upstream items level by level.

If the upstream item is a non-MPS item, the system calculates the independent demand of the upstream item and does not consider the quantity on hand for non-MPS items. For every level between the upstream item and the MPS item, the system performs calculations by following these rules:

- The system does not consider the negative demands of the upstream non-MPS item.
- Quantity Required of the parent item is calculated as follows:

  Quantity Required of a parent item = Quantity to Complete of the parent item / Yield Percent of the parent item

Note Yield Percent does not apply to global or local phantom items.

- Quantity to Complete of a component item can be expressed as:

  *Quantity to Complete of a component item = Qty Required of the parent item * Qty Per*
  If the parent item is a formula-controlled item, Quantity Per depends on the Quantity Type defined in the formula:

  - B (batch size): This defines quantity in terms of the parent item's batch quantity. *Qty Per = Qty Per Batch / Batch Size*
  - P (percentage of batch): This defines quantity as a percentage of the parent item's batch size. *Qty Per = Batch Percentage * Batch Size * 100% / Batch Size*
  - Blank: This defines quantity in terms of the parent item's unit of measure, assuming a batch size of 1. Quantity Per is the same as that in the normal product structure.

- The system considers the scrap percentage and adjusts Qty to Complete upwards to account for the scrap percentage:

  Qty to Complete of a component item / (1 - Scrap percentage)

- The system applies the Manufacturing Lead Time (Mfg LT) and Safety Time.

  Note GRC items refer to the items with an order policy of Gross Requirements Calculation. The other items, whose order policy is not GRC, are referred to as non-GRC items.

  For non-GRC items:
  Release Date of the parent item = Due Date of the parent demand - Mfg LT - Safety Time
  For GRC items: The system takes no account of safety time.
  Release Date of the parent item = Due Date of the parent demand
  where,
  Due Date of the parent item = Release Date of the parent item + Mfg LT

- The system applies Lead Time Offset on the product structure.

  For non-GRC items:
  Due Date of the component item = Releases Date of the parent item + Lead Time Offset
  For GRC items:
  Release Date of the component item = Greater of (Release Date of the parent item, or Release Date of the parent item + Lead Time Offset)
  Due Date of the component item = Release Date of the component item + Mfg LT

- If a component item appears in the product structure at the same level more than once (with different references to the same operation),

the system uses the shortest Lead Time Offset and summarizes the Quantity to Complete.

- If a component item appears in the product structure under different global phantom items, the system uses the longest cumulative lead time and summarizes the Quantity to Complete.
- For a local phantom item, the system only considers the Quantity Per and Scrap Percentage.

Note All date elements mentioned above are working days of the primary production line of the item at the site.

If the upstream item is an MPS item, it must have been processed by demand supplying calculations as the system processes based on low-level codes. Since supply orders have been created for the upstream MPS item to balance its demand and upstream demand, the system just needs to create supply orders based on the demand on the supply orders of the upstream MPS item and does not need to go up levels again.

The system calculates the demand of the current MPS item based on the demand of its upstream MPS item and the planning parameters in the same way as described above.

Calculating Independent Demands

When calculating independent demands at any level mentioned, the system considers the following rules:

- The system does not consider demand for quantities on unconfirmed sales orders. Demand for those quantities is recognized once the sales order is confirmed.
- You need to run DRP first to create inter-site requests.
- The system does not create a supply order for a negative demand, but balances it with the demand afterward. The system does not take into consideration the schedule type or smoothing rule of the negative demand.
- When both the forecast and SO/RSS are available, the system consumes forecast with SO/RSS — that is, subtracting sales order demand from the forecast. Production Scheduling Automation then uses the calculated net forecast to determine the demand. This applies to orders with Consume Forecast set to Yes.

  Note The abnormal sales demand (that is, orders with Consume Forecast set to No) is added to the net forecast rather than being subtracted from the forecast.
- The system does not create supply orders for any family item, but automatically calculates the derived demand for components of the family item. These calculations are based on the demand quantities for the family-level item as well as the Quantity Per and Forecast

Percentage for the components of that family item. This is called production forecast, which is treated as independent demand.

- Both planning bills and option bills are supported.
- The sales of a planning component consume any sales forecast for the component or the parent item as well as the production forecast of the parent item.
- The sales of an option component do not consume production forecast for the component or net forecast for the parent item. It only consumes independent forecast for the option component.

- **Processing of ATO items**
  - If the demand is a Sales Order or return material authorization (RMA), the system does not create a supply order for it.

    Note If the ATO item is master scheduled, the system automatically releases the sales order to production. If it is not master scheduled, you need to run Sales Order Release to Production to manually release the sales order to production. The system calculates production forecast for components of the configured item.
  - For demands of other types, the system creates a supply order for the configured item, and calculates production forecast for the components of the configured item. The system also follows the option bills to consume independent forecast for the option component.
- **Processing of Kit items**
  - If the demand is a Sales Order or RMA, the system does not create a supply order for it. The system calculates production forecast for components of the Kit item.
  - For demands of other types, the system creates a supply order for the Kit item, and follows the option bills to consume independent forecast for the option component.
- Processing of co-/by-products

  Note Co-/by-products are not supported in this release yet.
  - If any one of the co-products or the base process is master-scheduled, all co-products and the base process are handled as master-scheduled.
  - The system passes demand records directly from the co-products to the base process.
  - Production Scheduling Automation plans for a base process by determining the unsatisfied co-product demand for all co-products that reference the base process as their BOM/Formula code.

    - When there is unsatisfied demand for any of the co-products, the system creates a demand for its base process. This demand record reflects the amount of the base process required to meet the unsatisfied demand for the co-product.
    - The system does not take into account the by-product demand when calculating a base process demand. The unsatisfied demand for a by-product, however, can result in a supply order if the item is an MPS item.
- Processing of co-/by-products when only component items are master scheduled
    - The system does not create supply orders for the co/by-product item or base item. But the demand coming from the co-product is considered for the components of the base item.
    - The system passes demand records directly from the co-products to the base process.
    - The system calculates the demand of the component items based on the demand of the base process.

Supply Calculations

Master production supply planning considers the following as sources of supply for an item:

- Nettable inventory
- Purchase orders
- Distribution orders
- Open production orders

The system includes quantity on hand (QOH) in nettable inventory. For GRC items, however, the QOH is not considered as supply.

Open purchase orders and inter-site requests are included.

All open production orders are treated as supply before the scheduling horizon, but only open fixed production orders are treated as supply in the scheduling horizon.

The system does not take negative supply as demand. In other words, the system does not create a supply order for negative supply. If there is another demand afterward, the system considers the negative supply.

The system does not consider on-hand inventory for the base process. This means there is no on-hand balance for a base process.

Supply Order Creation

For items with an order policy of Gross Requirements Calculation (GRC) or One Time Only (OTO), the system plans them by using the specified order policy. For other items, the system plans them by using the Lot-for-Lot (LFL) order policy together with the schedule type and smoothing rule defined for them.

Note For details about how to determine the schedule type and smoothing rule on supply orders, refer to Production Order Smoothing Methods on page 3270. The item defined on the demand is used to determine the schedule type and smoothing rule.

Note If an item is defined with the order policy of GRC but it is a co-/by-product, or for the base process, the system plans the item using the LFL order policy.

When there are any demands before the scheduling horizon, which have not been met, the system sums them up and creates one supply order to meet the total demand. The Due Date of the new order is set to the first working day in the scheduling horizon. For the bases process, the system checks whether there is unsatisfied demand for a co-product.

In regard to demands within the scheduling horizon, the system creates supply orders by using the LFL order policy:

- If the value of Quantity to Start is less than the Minimum Order value defined in item-site or item planning data, the system creates an order and sets the order quantity to the Minimum Order value.
- The system determines the value of Quantity to Start with Order Multiple considered.
- When the OTO order policy is applied, Quantity to Start is 1. If there is an open production order for the OTO item, no new supply order is created.
- When the GRC order policy is applied, the system does not apply order planning parameters for lot sizing such as order quantity, order multiple, order minimum, or order maximum.
- The system pegs the new supply order to the original demand. If the supply order is a non-fixed order created for an MPS upstream item, the order is pegged to the original demand of the MPS upstream item.
- For the base process, the system searches for the first unsatisfied demand record for a co-product.

The system also needs to moderate the newly created supply orders based on the fixed orders:

- For every supply order to be created, the system checks whether there is extra supply with the same schedule type and smoothing rule before the due date of the order; if so, the system reduces the quantity on the current supply order.

    - On account of Minimum Order and Order Multiple, the order quantity of the supply order may be greater than the original demand, which is a kind of extra supply.
    - Extra supply may exist, which is caused by the demand or supply before the horizon start date.
    - Fixed orders are also a kind of extra supply without schedule type and smoothing rule attached. They can be used to compensate any non-fixed supply orders. The schedule type and smoothing rule of a fixed order are determined in item planning data or item-site planning exceptions.
    - If there are supply orders, which are later than any demand in the horizon, they are considered as a supply and affect the supply orders to be created. The system does not create more supply orders than the demands in the horizon, but displays messages in the planning report, advising you to expedite the orders. When adjusting the non-fixed orders, the system also applies Order Multiple and Order Minimum.
    - The joint order set created for other co-product demands could be an extra supply for the current co-product.
- For the last supply order in the horizon, the system checks the setting of Allow Excess Inv Due to Order Multiple:
    - If Allow Excess Inv Due to Order Multiple is set to Yes, the extra supply caused by Order Multiple is placed on the last order.
    - If Allow Excess Inv Due to Order Multiple is set to No, the system adjusts the order quantity of the last order to the actual demand without considering Order Multiple and Order Minimum settings.

Production Order Smoothing

Production order smoothing converts the production orders created by the master scheduling process that are scheduled periodically, in weekly and/or monthly buckets, into daily production orders that are distributed across working days within a production scheduling period. This may be necessary because the frequency of production and the quantities on the production orders may exceed the load on production resources on any given day.

For example, you have some automotive suppliers who receive Plan/Ship schedules on a weekly basis, but their production needs to be done over multiple days. So you need to create a daily master production schedule.

The production order smoothing function simplifies this task for the production scheduler by automatically dividing and distributing the quantity that would be supplied by a single production order, into multiple orders that are spread across several days.

Without the production order smoothing function, the production scheduler needs to manually modify and schedule the original master schedule production orders, which is increasingly challenging as the number of items and the number of orders increases.

Note Production order smoothing does not consider capacity. Capacity is part of the Production Line Leveling process.

Production order smoothing is part of Production Scheduling Automation. You can either execute order smoothing after master production supply planning or conduct it independently.

If production order smoothing is conducted after master production supply planning, the system smooths the supply orders created by master production supply planning calculations.

If production order smoothing is carried out independently, the system smooths master schedule orders from the following sources:

- Master schedule orders loaded from DSCP
- Master schedule orders created by MRP
- Master schedule orders created by users manually

The system does not obtain any demand information on the master schedule orders if production order smoothing is executed independently. Therefore, no demand characteristic is considered during the smoothing process.

Note Supply orders include the master schedule orders from the previous sources, as well as the orders created during master production supply planning calculations.

Production Order Smoothing Methods

Once you specify smoothing rules for orders, it indicates these orders could be smoothed. Then, the system can smooth these orders according to the assigned smoothing rules.

Note If Smoothing Rule is None for an order, the system does not smooth the order.

If excess inventory is not allowed, the total quantity of required items in the new orders created during smoothing must be the same as the sum of quantities in the original orders.

The specified smoothing rule is taken into account during order division. The system only divides the orders that meet the following requirements:

- The order is within the scheduling horizon.
- Auto Schedule is selected.
- Order Status is F.

In other words, for planned orders that meet filter criteria and are in the specified Production Scheduling Automation horizon, the system firms them and selects Auto Schedule for them. Then, the system can smooth these orders according to the assigned smoothing rules.

Note Dividing a production order in **Production Scheduling Automation** is different from the Production Order Split function that splits an order. Dividing an order results in two orders that the system processes separately, from reporting and accounting perspectives. Splitting an order creates different orders for scheduling and execution; however, the reporting and accounting are collected on one order, called the split CUM order.

The standard order smoothing procedure does not take into consideration the capacity of each day; however, it considers holidays and non-working days.

QAD Adaptive supports three methods of order smoothing:

- Forward Smoothing
- Backward Smoothing
- Average Smoothing

You can specify smoothing rules in **Items** or **Smoothing Rule Matrix**. Generally, you can create records with different combinations of smoothing rule, schedule type, demand type, and smoothing key in **Smoothing Rule Matrix**. You can also define the smoothing rule for a specific sales order (SO) in **Order Rule Overrides**. This way the system first searches for a proper record from the **Order Rule Overrides** view; if no record is available, the system then searches for a record in the **Smoothing Rule Matrix** view. If no order smoothing rule is found from the demand order or the matrix, the system uses the order smoothing rule defined for the item in Items. If the item has dependent demand, the system uses the original demand, such as the SO, of its higher-level parent item and its own item or smoothing key to determine the smoothing rule.

Note You can access **Smoothing Rule Matrix** and **Order Rule Overrides** through **Production Scheduling Automation Setup**.

Then, you can specify the scheduling horizon on the Production Scheduling Automation panel in **Planning Control**.

After that, you can set related criteria in **Selective Production Order Smoothing** to conduct production order smoothing.

Note Scheduling types and smoothing rules are assigned to orders during master production supply planning. If you run order smoothing independently, without performing master production supply planning, the system uses the scheduling type and smoothing rule assigned to the items on orders that are not created during master production supply planning—for example, the manually created or MRP-generated orders.

When Consolidate Orders is set to Yes in **Selective Production Order Smoothing**, after smoothing, the system consolidates the newly created orders by site, line, item, due date, need date, schedule type, manufacturing type, smoothing rule, period type, average period, priority, and production order sequence. The system consolidates discrete schedule orders with the same CUM ID only.

Qty to Start is determined by the smoothing logic and Qty to Complete is then calculated based on Qty to Start.

Forward Smoothing

Forward smoothing begins with a master schedule order, creating multiple production orders that are scheduled from master schedule order due date, forward in time to a future date, typically the due date for the next master schedule order.

When conducting forward smoothing, the system evenly distributes the required quantity of a production order on the working days, ranging from the order's due date to the due date of the next production order that is not scheduled on the same date but uses the same smoothing rule (Date A), or to the end of the scheduling horizon (Date B). Whether Date A or Date B takes effect depends on which date is earlier.

The formula for calculating the quantity planned on each working day is as follows:

Qty allocated on each working day = Required Qty / (Numbers of working days between the due date of the next order and that of the current order)

Need Date and Due Date of the newly generated order are set to the revised date after you confirm updates.

If Order Multiple is set in Items, the system moderates the order quantities according to the order multiple factor. The system first rounds up the planned quantity on the first day according to the order multiple, and then determines whether the accumulated quantity (*Planned quantity on each day*Number of working days*) is smaller than the expected accumulated quantity. If yes, the system rounds up the planned quantity; if no, the system rounds down the planned quantity.

For example, if the system needs to distribute a quantity of 100 over four working days and Order Multiple is set to 10, the system first divides the total quantity (100) by four, which equals 25. Considering the order multiple (10), the system rounds up the quantity to 30 for the first day. Then the system rounds down the quantity for the second day to 20. Now the actual CUM quantity is 50, which meets the expected CUM quantity for the first two days (50), so the round-down logic applies. The system applies the handling process for the remaining two days as well. So the quantities planned on the four days are 30, 20, 30, and 20 respectively, instead of 25 on each day.

However, if the original order quantity that is being divided is not a multiple of the specified Order Multiple value, the system checks the setting of Allow Excess Inv Due to Order Multiple:

- If Allow Excess Inv Due to Order Multiple is set to No, the residual quantity is scheduled on the due date of the original order.
- If Allow Excess Inv Due to Order Multiple is set to Yes, the system applies the order multiple to the original order and then performs order smoothing.

Example

Assume that the system conducts forward smoothing over a period of four days, Order Multiple is set to 10, and the required quantity of the original production order is 105.

- When Allow Excess Inv Due to Order Multiple = No:

  The system first checks the required quantity of the original production order. Since the required quantity is 105, which does not fit the order multiple (10), the system leaves the residual quantity (5) on the due date (Day 1) and then divides the rest quantity (100) by four, which equals 25. The system first rounds up the quantity of 25 on day 1 to 30. The system finally plans a quantity of 35 on the first day, and a quantity of 20, 30, or 20 on the other three days.

	Day 1	Day 2	Day 3	Day 4
Demand	105			
Smooth Forward	30	25	25	25
Adjust by Order Multiple	35	20	30	20

- When Allow Excess Inv Due to Order Multiple = Yes:

  The system first rounds up the total required quantity from 105 to 110 and divides it by four, obtaining a quantity of 27.5 on each day. Then, the system adjusts the quantities on each day according to the Order Multiple setting, and plans a quantity of 30 on the first three days, and a quantity of 20 on the last day.

	Day 1	Day 2	Day 3	Day 4
Demand	105			
Apply Order Multiple for Original Order	110			
Smooth Forward	27.5	27.5	27.5	27.5
Adjust by Order Multiple	30	30	30	20

Backward Smoothing

Backward smoothing begins with a master schedule order. It then creates multiple production orders that are scheduled from master schedule order due date, backward in time to an earlier date, typically the due date for the previous master schedule order.

When conducting backward smoothing, the system evenly distributes the required quantity of a production order on the working days ranging from its due date to the due date of the previous production order that is not scheduled on the same date but uses the same smoothing rule (Date A), or to the start date of the scheduling horizon (Date B). Whether Date A or Date B takes effect depends on which date is reached first.

The formula for calculating the quantity planned for each working day is as follows:

Qty allocated on each working day = Required Qty / (Numbers of working days between the due date of the current order and that of the previous order)

For each order after smoothing, the system sets Due Date to the revised date and keeps the original order due date as the Need Date for the new order.

Similar to forward smoothing, if Order Multiple is set in **Items**, the system moderates the order quantities according to the order multiple factor. If the original order quantity that is being divided is not a multiple of the specified Order Multiple value, the system checks the setting of Allow Excess Inv Due to Order Multiple:

- If Allow Excess Inv Due to Order Multiple is set to No, the residual quantity is scheduled on the due date of the original order.
- If Allow Excess Inv Due to Order Multiple is set to Yes, the system applies the order multiple to the original order and then performs order smoothing.

Example

Assume that the system conducts backward smoothing over a period of four days, Order Multiple is set to 10, and the required quantity of the original production order is 100.

The system first divides the total required quantity by four, obtaining a quantity of 25 on each day. Then, the system adjusts the quantities on each day according to the Order Multiple setting. The logic is similar to that for forward smoothing, but the quantity on the due date of the current order (Day 4) is determined first.

	Day 1	Day 2	Day 3	Day 4
Demand				100
Smooth Backward	25	25	25	25
Adjust by Order Multiple	20	30	20	30

Average Smoothing

Average smoothing is similar to backward smoothing. It first aggregates the quantities from master schedule orders within a scheduling period that you define, and then creates multiple production orders to supply the total quantity, that are scheduled backward in time to the start date of the scheduling period.

During average smoothing, the system first calculates the total required quantity for the production orders to manufacture the same item with the same smoothing rule, same average period, and same period type within a time bucket.

Then, the system determines how many working days are available in this time bucket, and spreads the summed quantity evenly to each working day using the backward smoothing method.

The following formula is used by the system to calculate the quantity planned on each working day:

Qty allocated on each working day = Sum of required Qty / (Number of working days between the first day and the last day of the time bucket)

The system determines time buckets according to the Period setting for the item on the Production Scheduling panel in **Items**.

Note The Period field is a combination of the number of periods and the period type, such as 10 days, 2 weeks, or 1 month.

- If the period type is Days:

  The system determines the time bucket based on the number of periods (days) from Horizon Start Date. For example, if Horizon Start Date is Mar 1 and the Period field is set to 10 days, then every 10 calendar days are treated as a time bucket from Mar 1. If the Period field is set to 1 day, the system does not need to smooth the orders, because the demand is summed up and averaged on the same day. If the Period field is set to 0 days, the time bucket refers to the whole planning horizon.

- If the period type is Weeks:

The system first identifies the start day of a week, which is determined by the value of Summary Default on the MRP panel in **Planning Control**.
If Horizon Start Date is later than the start date of a specific time bucket and earlier than the end date of this time bucket, the system adjusts the time bucket to be from Horizon Start Date to the end date of the time bucket.
If Horizon End Date is later than the start date of a specific time bucket and earlier than the end date of this time bucket, the system adjusts the time bucket to be from the start date of the time bucket to Horizon End Date.
If the Period field is set to 0 weeks, the system performs order smoothing across the whole planning horizon.
If Horizon Start Date does not match the value of Summary Default defined in MRP controlling parameters, the start date of the time bucket is Horizon Start Date. The system then determines the week containing the end date of the time bucket, as well as the end date, according to the following formula:
Week containing the end date of the time bucket = Week containing the horizon start + Number of periods
where,
End date = Summary Default for the week containing the end date - 1
For example, if Horizon Start Date is Apr 5, 2019, Summary Default is Wednesday, the Period field is set to 2 weeks, so the first time bucket of the horizon is from Apr 5 to Apr 16.

- If the period type is Months:

  The system determines the time bucket based on the number of periods (months) from Horizon Start Date. If the Period field is set to 0 months, the system performs order smoothing across the whole planning horizon.

If Order Multiple is set in Items, the system moderates the order quantities according to the order multiple factor. If the original order quantity that is being divided is not a multiple of the specified Order Multiple value, the system checks the setting of Allow Excess Inv Due to Order Multiple:

- If Allow Excess Inv Due to Order Multiple is set to No, the system schedules the residual quantity on the last day of the averaging period.
- If Allow Excess Inv Due to Order Multiple is set to Yes, the system applies the order multiple to the original order and then performs order smoothing.

Need Date and Due Date of the newly generated order are set to the revised date after you confirm updates. If the original order is a discrete schedule order, the associated orders are attached to the same CUM order.

Example

Assume that the system needs to conduct average smoothing for two production orders. Order Multiple is set to 10, the required quantity for each production order is 50, and there are five working days available in the scheduling horizon.

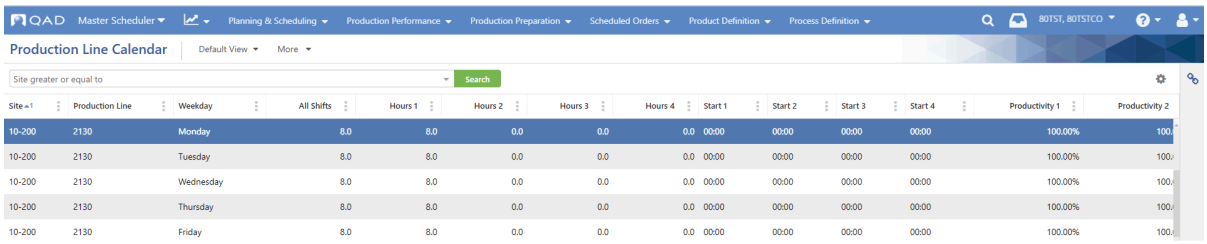
Then, the system calculates the total quantity required, which is 100, and divides it by five. This means that the system generates five production orders on the five working days, with a required quantity of 20 for each of them.

Performing Production Order Smoothing

This topic uses average smoothing as an example.

Setting Production Line Calendars

Check the working day settings in **Production Line Calendar**.



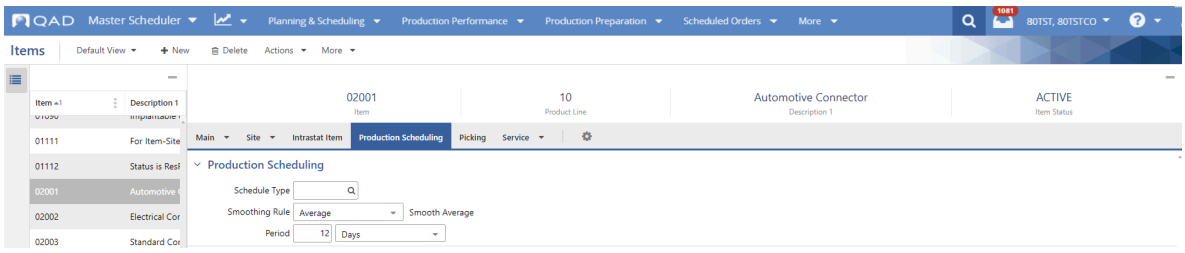
In this example, for production line 2130 at site 10-200, the working days range from Monday to Friday, and there are eight working hours per day.

Defining Items

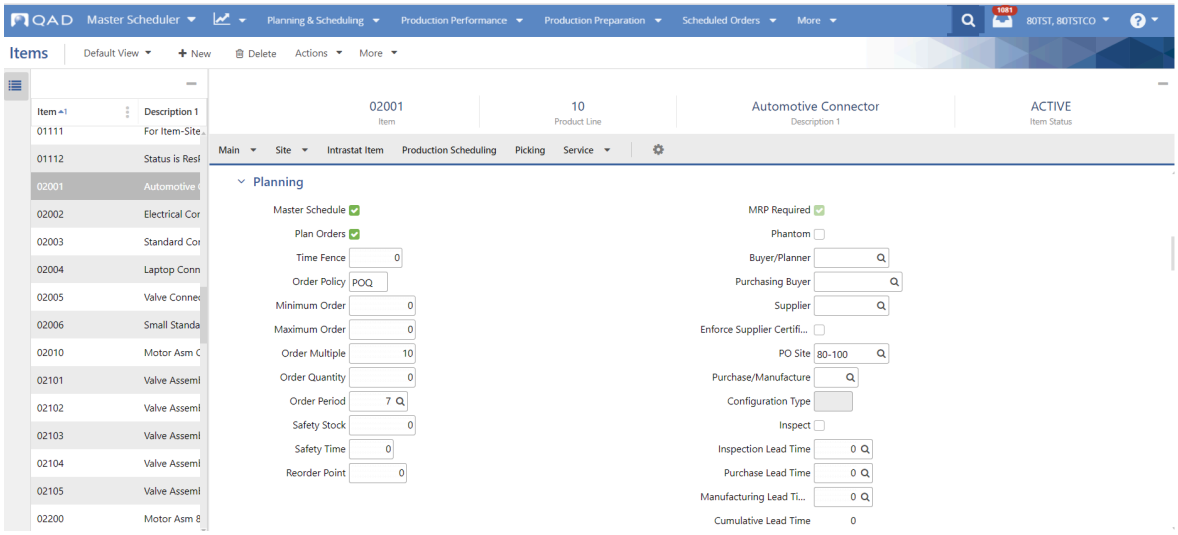
You can create required items in **Items**. There are several key parameters for Production Scheduling Automation:

- Order Multiple
- Schedule Type
- Smoothing Rule

For production order smoothing, Schedule Type is not used but Smoothing Rule is vital.



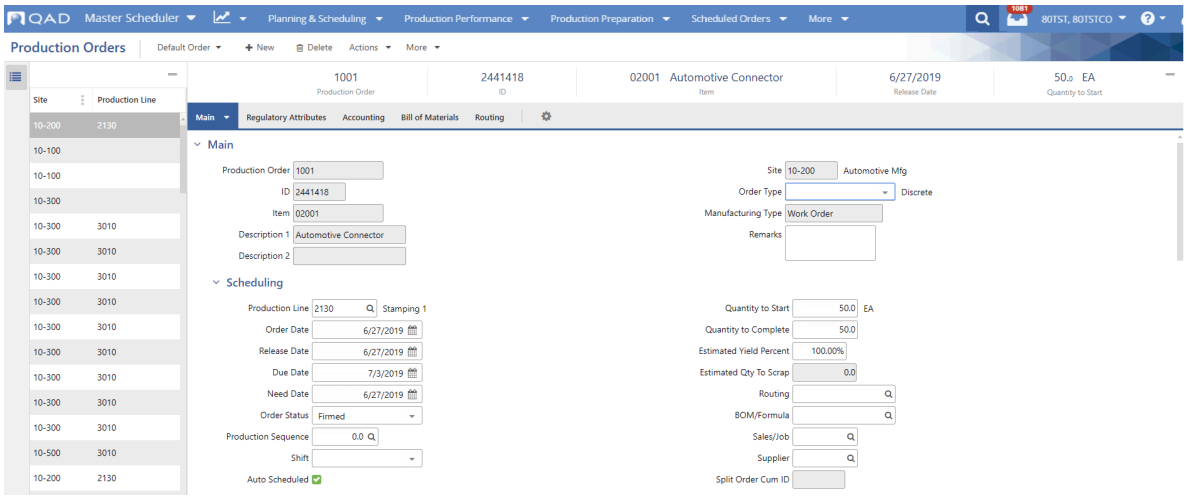
Note If you set Smoothing Rule to Average, the Period field is displayed and a value is required.



In this example, create an item named 02001 with Schedule Type set to Average, Period set to 12 days, and Order Multiple set to 10.

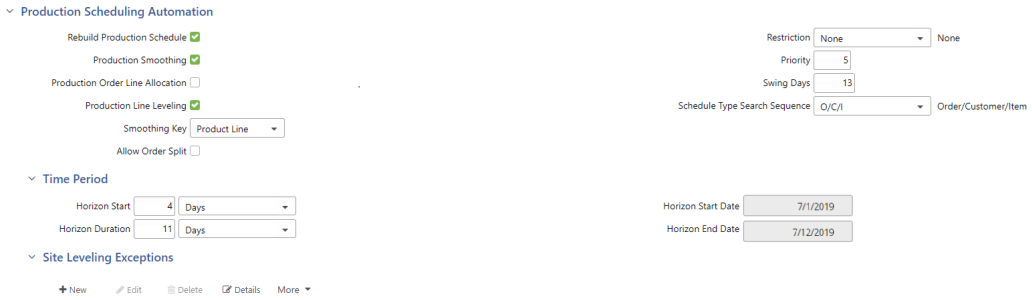
Creating Production Orders

Create production orders for manufacturing the required items in **Production Orders**.



Specifying Time Horizon

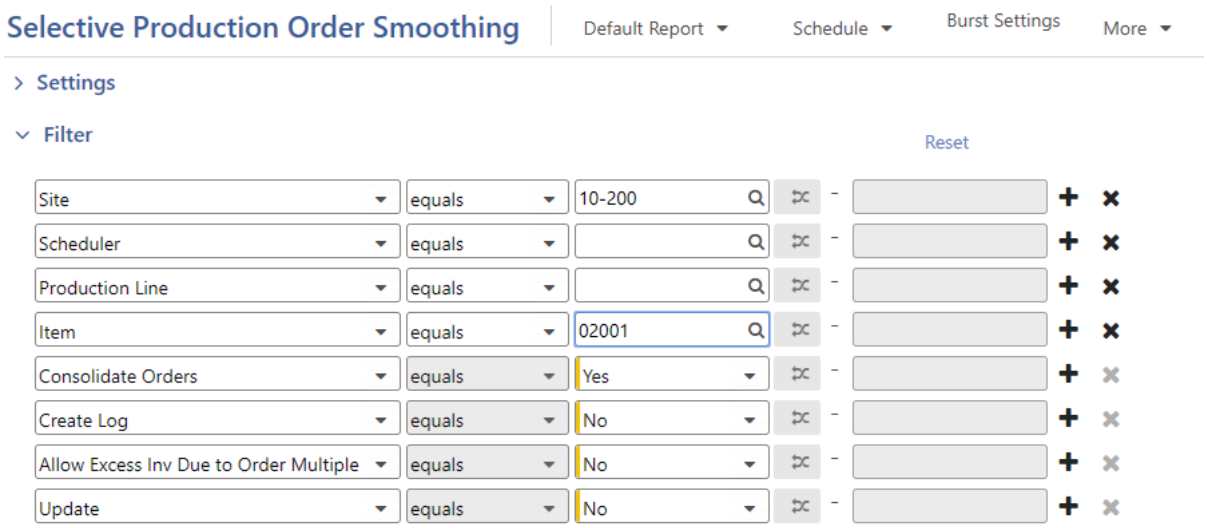
The Production Scheduling Automation panel in **Planning Control** provides access for you to set defaults and exceptions for controlling parameters relevant to Production Scheduling Automation calculations. The setup in this panel is for all sites in the domain. You can also define specific leveling settings for a site in the Site Leveling Exceptions sub-panel.



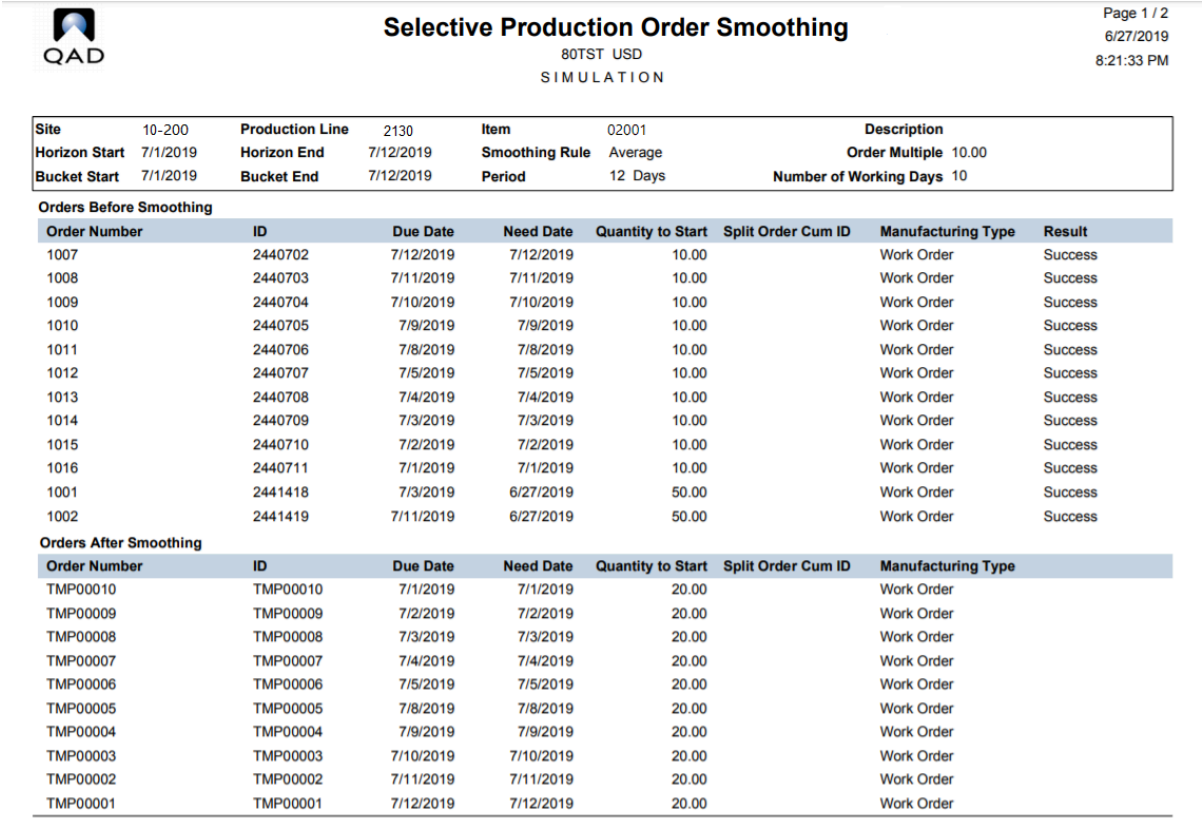
For example, set the horizon to start from July 1, 2019 to July 12, 2019.

Executing Selective Production Order Smoothing

Set required filter criteria in **Selective Production Order Smoothing**.



In this example, set Site to 10-200, and Item to 02001. Click Run.



QAD

Selective Production Order Smoothing

80TST USD

SIMULATION

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6/27/2019
8:21:33 PM

Site	10-200	**Production Line**	2130	**Item**	02001	**Description**	
Horizon Start	7/1/2019	**Horizon End**	7/12/2019	**Smoothing Rule**	Average	**Order Multiple**	10.00
Bucket Start	7/1/2019	**Bucket End**	7/12/2019	**Period**	12 Days	**Number of Working Days**	10

Orders Before Smoothing

Order Number	ID	Due Date	Need Date	Quantity to Start	Split Order Cum ID	Manufacturing Type	Result
1007	2440702	7/12/2019	7/12/2019	10.00		Work Order	Success
1008	2440703	7/11/2019	7/11/2019	10.00		Work Order	Success
1009	2440704	7/10/2019	7/10/2019	10.00		Work Order	Success
1010	2440705	7/9/2019	7/9/2019	10.00		Work Order	Success
1011	2440706	7/8/2019	7/8/2019	10.00		Work Order	Success
1012	2440707	7/5/2019	7/5/2019	10.00		Work Order	Success
1013	2440708	7/4/2019	7/4/2019	10.00		Work Order	Success
1014	2440709	7/3/2019	7/3/2019	10.00		Work Order	Success
1015	2440710	7/2/2019	7/2/2019	10.00		Work Order	Success
1016	2440711	7/1/2019	7/1/2019	10.00		Work Order	Success
1001	2441418	7/3/2019	6/27/2019	50.00		Work Order	Success
1002	2441419	7/11/2019	6/27/2019	50.00		Work Order	Success

Orders After Smoothing

Order Number	ID	Due Date	Need Date	Quantity to Start	Split Order Cum ID	Manufacturing Type
TMP00010	TMP00010	7/1/2019	7/1/2019	20.00		Work Order
TMP00009	TMP00009	7/2/2019	7/2/2019	20.00		Work Order
TMP00008	TMP00008	7/3/2019	7/3/2019	20.00		Work Order
TMP00007	TMP00007	7/4/2019	7/4/2019	20.00		Work Order
TMP00006	TMP00006	7/5/2019	7/5/2019	20.00		Work Order
TMP00005	TMP00005	7/8/2019	7/8/2019	20.00		Work Order
TMP00004	TMP00004	7/9/2019	7/9/2019	20.00		Work Order
TMP00003	TMP00003	7/10/2019	7/10/2019	20.00		Work Order
TMP00002	TMP00002	7/11/2019	7/11/2019	20.00		Work Order
TMP00001	TMP00001	7/12/2019	7/12/2019	20.00		Work Order

A report is generated for you to view the smoothing results.

As shown in the report, there are 12 orders for manufacturing item 02001 with different due dates in the scheduling horizon. The total required quantity is 200.

Since there are 10 working days available in the horizon, after order smoothing, the system generates 10 orders and set the required quantity to 20 for each of them.

If you have set Create Log to Yes, the logs generated during order smoothing are displayed at the end of the report.

If you have set Update to Yes, the new orders are committed and granted actual order numbers and IDs.

Production Line Allocation

The system creates production orders after master production supply planning, taking into account different kinds of demands, existing inventories, and supplies. When executing production line allocation, the system allocates the production orders to production lines according to the allocation percentages predefined for these lines. This helps balance workload among the production lines.

To execute production line allocation, you can either:

- Run **Production Scheduling Automation** with Production Order Line Allocation set to Yes
- Run **Selective Production Line Allocation**

During production line allocation calculations, the system adjusts the allocated order quantity by order multiple. The setting of Allow Excess Inv Due to Order Multiple affects the allocation as well.

The Line Allocation panel in the **Item Production Lines** view enables you to define allocation percentages for production lines.

You can access this view through the search field. In this stand-alone **Item Production Lines** view, you can edit and delete existing items, but are not allowed to add items to the production line.

Alternatively, you can access **Item Production Lines** from the Line Items panel in the **Production Lines** view. In this case, New is also available in the **Item Production Lines** view, enabling you to add more items to the production line.

Creating Production Line Allocation Records

You can add an item to a production line on the Line Items panel of **Production Lines**. Once the item production line record is created, the system automatically creates a production line allocation record for this item using the same start effective date. Then you can select the item production line record and click Details to launch the **Item Production Lines** view for further .

Alternatively, you can click New on the Line Allocation panel of **Item Production Lines** to manually add a production line allocation record.

Creating an Item Production Line Record on the Line Items Panel of Production Lines

After you create an item production line record on this panel, the system automatically creates a production line allocation record for this item using the same start effective date.

- If there exists a production line allocation record for this item with an earlier start effective date, the system uses the percentages in the existing record as the defaults for the newly created production line allocation record. If this production line is not defined in the previous record, the percentage of this line in the new record is set to 0%.

  Assume that there is a production line allocation record for the item. The start effective date of this record is set to Jan 1, 2019, and it lists line 1000 with a percentage of 60% and line 2000 with a percentage of 40%. If you then create an item production line record for line 3000 using the same item and set the start effective date to Feb 1, 2019, the system automatically creates a production line allocation record on Feb 1, 2019, listing production lines 1000, 2000, and 3000 with a percentage of 60%, 40%, and 0%, respectively.

- If there is no production line allocation record for this item either before or after the start effective date, the system creates a production line allocation record with this start effective date and sets the percentage of this line to 100%.
- If there is no production line allocation record for this item before the start effective date but a record after the start effective date is available, the system creates a production line allocation record with this start effective date and sets the percentage of this production line to 100%. If this production line is not defined in the existing record, the system also adds this line to the existing record with the percentage set to 0%; if this line is available in the existing record, the preset percentage remains unchanged in the existing record.

Creating a Production Line Allocation Record on the Line Allocation Panel of Item Production Lines

When you select New on this panel and specify a valid start effective date, a production line allocation record is created, and the system lists all the production lines that are valid for the item starting from this date.

Note The start effective date you enter here cannot be earlier than the start effective date of the selected item production line record.

When you are maintaining an item production line record that takes effect from a certain date, you can only add production line allocation records that are equal to or later than this date.

Assume that you create a production line allocation record with the same start effective date. The system lists all the production lines that have this item defined on and are effective at this date. Then you can adjust the percentages for these lines as needed. The system displays the total percentage of the records when you are editing, and the total percentage must be 100% when you save the records. You can maintain the production line allocation records using any production line on which this item has been defined. This means, if you check the records for any one of the listed lines, you can see the same line allocation records and maintain them.

Deleting Production Line Allocation Records

The methods include:

- Directly deleting a production line allocation record.
- Deleting an item production line record to remove certain production line allocation records.
- Deleting a production line to remove all production line allocation records created for this line.

Directly Deleting a Production Line Allocation Record from the Line Allocation Panel of Item Production Lines

Select an existing production line allocation record on this panel and select Delete.

Note You are not allowed to delete system-created production line allocation records, that is, the production line allocation records automatically created by the system after you add item production line records. Such a production line allocation record has the same start effective date as its corresponding item production line record.

Removing an item Production Line Record from the Line Items Panel of Production Lines

You can remove an item production line record from this panel to delete production line allocation records.

- If the item production line record you delete is the only one set up for the item and the production line, all production line allocation records are deleted.

  Assume that item A has been assigned to production line A with a start effective date of Jan 1, 2019 only, and there are three production line allocation records with a start effective date of Jan 1, 2019, Apr 1, 2019, and Jun 1, 2019 for item A and production line A.
  When this item production line record is deleted, all of the three production line allocation records are removed accordingly. The allocation percentage defined on production line A for manufacturing item A is accordingly added to another production line of item A, which has the highest allocation percentage.

- When there are multiple item production line records between the item and the production line, if the item production line record you remove is not the one with the earliest start effective date, no production line allocation records related to this item are deleted.

  For example, there are two item production line records between item A and production line A: one record with a start effective date of Jan 1, 2019 while the other one with a start effective date of Mar 1, 2019. There are three production line allocation records for item A and production line A, with different start effective dates (Jan 1, 2019, Jan 3, 2019, and May 1, 2019).
  If you only delete the item production line record whose start effective date is Mar 1, 2019, all of the three production line allocation records are reserved. This is because the item production line record with a start effective date of Jan 1, 2019 is still valid and can take effect after the deletion.
  If you only delete the item production line record whose start effective date is Jan 1, 2019, the system removes the production line allocation records with a start effective date of Jan 1, 2019 and Jan 3, 2019, but reserves the one for May 1, 2019.

Deleting a production line from Production Lines

Once you delete a production line, the system automatically removes all item production line records and production line allocation records related to this line.

Allocating Production Orders to Production Lines by Allocation Percentage

If there are multiple production line allocation records for an item, production orders for this item on a given day are assigned to the production lines according to the allocation percentages.

When allocating production orders to production lines, the system also considers the fixed orders that have been assigned to production lines.

For example, item 01010 has been defined to be manufactured on production lines 1 and 2, with an allocation percentage of 60% for line 1 and 40% for line 2. Among the total quantity of 600 units of item 01010 in firmed orders, 60 units could not be auto-rescheduled and have been assigned to production line 1, while the other 540 units could be auto-rescheduled.

In this case, the system allocates 360 units of item 01010 to production line 1, which includes the 60 units that could not be auto-rescheduled.

During production line allocation, the system:

1. Calculates the maximum production quantity allowed on each production line
2. Allocates fixed orders first, if any, and then allocates non-fixed orders
3. When allocating non-fixed orders, first allocates the non-fixed order with the largest order quantity to the production line that has the highest allocation percentage
4. Divides production orders based on the maximum production quantity allowed on each production line, when necessary
5. Moderates orders based on the remaining capacity, order multiple, and setting of Allow Excess Inv Due to Order Multiple

Production Line Allocation With Fixed Orders Considered

For an item on a certain day, the system can assign its non-fixed orders to any production lines defined on the Line Allocation panel according to the allocation rule. Non-fixed orders are always reallocated regardless of whether they have defined production lines or not.

Among the orders for an item on a certain day, if there is any fixed order with a production line defined, you can determine whether to reallocate the fixed order as needed:

- If you run **Production Scheduling Automation** with Production Order Line Allocation set to Yes, the production line allocation function only allocates the non-fixed production orders with the same site,

item, and due date together. It does not change the production line for a fixed production order or for an order whose Auto Schedule is set to No.

- If you run **Selective Production Line Allocation**, you can set the Update Fixed Orders field to determine whether to reallocate fixed orders to production lines.

When the allocation percentage for this production line is not zero, the system adds the order quantity of this fixed order into the total order quantity when calculating the maximum order quantities allowed for production lines for that day. If the allocation percentage for this production line is zero, the system excludes the order quantity of this fixed order from the total order quantity.

Example

Assume that production lines 1 and 2 have been defined for item 01010 with an allocation percentage of 60% and 40% respectively. There are four orders for manufacturing item 01010 on a specific day, among which order 004 is a fixed order and has been assigned to production line 1.

Production Line Allocation:

Item	Production Line	Allocation %
01010	Line 1	60
01010	Line 2	40

Production Orders:

Order#	Item	Order Quantity	Fixed Order
001	01010	300	No
002	01010	200	No
003	01010	100	No
004	01010	400	Yes

1. The system first calculates the total order quantity for item 01010, which is 1000.
2. The system calculates the maximum production quantities on production lines 1 and 2 according to the following formula:

Maximum production qty on production line = Total order qty x Allocation percentage of the line
In this case, the maximum production quantity on production line 1 is 600 and that on production line 2 is 400.

3. The system allocates the fixed order first, and then allocates the non-fixed order with the largest order quantity to the production line that has the highest allocation percentage.

   Assume that production orders are sorted by item and by order number. If there are two orders whose order quantities are the same, the order ranking ahead takes precedence over the other one and is allocated first. Similar handling logic applies to the situation when there are two production lines that have the same allocation percentage. The system first uses the production line ranking ahead.
   If Update Fixed Orders is No, the system should assign the fixed order to its specified production line during production line allocation. If the order quantity of the fixed order is greater than the maximum production quantity on the specified production line, the system still leaves the whole order on the line and does not consume the capacity on any other lines.
   In this case, the order quantity of the fixed order (order 004) is 400 and the maximum production quantity on production line 1 is 600. So the system could directly allocate order 004 to its specific production line, line 1. The system then tries to allocate order 001, the non-fixed order with the largest order quantity, to production line 1 since this line has the highest allocation percentage and has remaining capacity as well. However, the remaining capacity on production line 1 is 200 and cannot meet the required capacity for order 001, which is 300. So the system has to divide order 001 into two orders. It generates a new order (005) with a quantity of 200, and leaves the leftover quantity of 100 on order 001. The system then allocates order 005 to production line 1 and places order 001 on production line 2. The system finally allocates orders 002 and 003 to production line 2 because the spare capacity on this line could meet the required capacity for these two orders.

Production Order Line Allocation:

Order#	Original Order#	Production Line	Quantity Allocated
004	004	Line 1	400
005	001	Line 1	200
001	001	Line 2	100
002	002	Line 2	200
003	003	Line 2	100

Production Line Allocation With Order Multiple Configured

When order division is required during production line allocation, the system determines the order quantity of each new order according to the order multiple factor.

Note If Order Multiple is 0 (zero), the system treats it as 1 (one).

Generally, the system uses the Order Multiple value defined in item or item-site planning data.

If the production line is associated to a Kanban process, the system uses the value of Kanban Quantity in Kanban Masters as the order multiple for the item.

The system also checks the setting of Allow Excess Inv Due to Order Multiple:

- When Allow Excess Inv Due to Order Multiple is set to No:

  The sum of order quantities of all new orders must be equal to the order quantity of the original order.
  Example
  Assume that production lines 1 and 2 have been defined for item 01010 with an allocation percentage of 60% and 40% respectively. There are three orders for manufacturing item 01010 on a specific day, and all of them are non-fixed orders. Order Multiple is set to 5 for item 01010, and Allow Excess Inv Due to Order Multiple is set to No. The total order quantity for item 01010 on that day is 922. The maximum production quantities on production lines 1 and 2 are 553 and 369 respectively.

Production Line Allocation:

Item	Production Line	Allocation %	Maximum Quantity Allowed
01010	Line 1	60	553
01010	Line 2	40	369

Production Orders: Order Multiple is 5

Order#	Item	Order Quantity	Fixed Order
001	01010	412	No
002	01010	311	No
003	01010	199	No

1. The system first tries to allocate order 001 to production line 1. Since the order quantity (412) is less than the maximum quantity allowed for this line and no order division is required, the system can directly allocate this order with the whole order quantity to production line 1 even though the quantity is not a multiple of the order multiple 5.
2. Since there is remaining capacity on production line 1, the system tries to allocate the second order, order 002, to production line 1.
   - If the remaining capacity on the current production line is insufficient to meet the required capacity of the second order, the second order needs to be divided. The system calculates the order quantity for the new order by rounding up the remaining capacity by order multiple.

     In this example, the remaining capacity on production line 1 is 141, but the order quantity of order 002 is 311. So the system divides order 002, allocates a quantity of 145 to production line 1 by creating a new order (referred to as 004), and reserves the leftover quantity of 166 on order 2 for late use.

Order#	Original Order #	Production Line	Quantity Allocated
001	001	Line 1	412
004	002	Line 1	145

   - If the second order needs to be divided but the remaining capacity on the current production line is less than one order

multiple of the item, the system tries to allocate this order to the next production line.

- If the order quantity of the second order is greater than the remaining capacity on the current production line, but the difference is less than one order multiple, the system allocates the second order with the whole order quantity to this line instead of dividing the order and generating a new order for the next line.

  For example, if the quantity of order 002 is 143, the system could directly allocate it to production line 1.

- If the remaining capacity of all production lines is less than or equal to one order multiple, the system divides the second order and tries to allocate it to the production line with the largest capacity and allocates the remaining quantity of the order to the other production lines. If the remaining quantity also needs to be divided, the system allocates the order to the production line with the largest capacity.

3. Since all capacity on production line 1 is consumed, the system then tries to allocate the leftover quantity of the second order to the second production line.The system checks whether the leftover quantity is equal to or less than the capacity of the second production line:

   - If so, the system directly allocates the leftover quantity to the second line.
   - If not, the system divides the order and rounds up the order quantity of the new order by order multiple.

   In this case, the leftover quantity is 166, which is less than the capacity of production line 2 (369), so order 002 with the leftover quantity is directly allocated to line 2.

Order#	Original Order #	Production Line	Quantity Allocated
001	001	Line 1	412
004	002	Line 1	145
002	002	Line 2	166

4. The system starts to allocate the next order.

   When allocating a new order, if the order quantity is less than the remaining capacity on the current production line that has been allocated with orders, the system first tries to allocate the order to this line, and then considers whether to allocate the order to the other lines.

In this example, the order quantity of order 003 is 199, and the remaining capacity on production line 2 is 203. So the system could allocate this order with all required quantity to production line 2.

Order#	Original Order #	Production Line	Quantity Allocated
001	001	Line 1	412
004	002	Line 1	145
002	002	Line 2	166
003	003	Line 2	199

- When Allow Excess Inv Due to Order Multiple is set to Yes:

  The sum of order quantities of all new orders can exceed the order quantity of the original order.

  Note

  The system does not round the quantity on a fixed order according to the order multiple even if Allow Excess Inv Due to Order Multiple is set to Yes.

  Example
  Assume that production lines 1 and 2 have been defined for item 01010 with an allocation percentage of 60% and 40% respectively. There are three orders for manufacturing item 01010 on a specific day, and all of them are non-fixed orders. Order Multiple is set to 5 for item 01010, and Allow Excess Inv Due to Order Multiple is set to Yes. The total order quantity for item 01010 on that day is 922. The maximum production quantities on production lines 1 and 2 are 553 and 369 respectively.

Production Line Allocation:

Item	Production Line	Allocation %	Maximum Quantity Allowed
01010	Line 1	60	553
01010	Line 2	40	369

Production Orders: Order Multiple is 5

Order#	Item	Order Quantity	Fixed Order
001	01010	412	No
002	01010	311	No
003	01010	199	No

1. The system first tries to allocate order 001 to production line 1. Since the order quantity (412) is less than the maximum quantity allowed for this line and no order division is required, the system can directly allocate this order to production line 1. But the order quantity is not a multiple of the order multiple 5, so the system rounds it up from 412 to 415 to meet the order multiple requirement.

Order#	Original Order #	Production Line	Quantity Allocated	Actual CUM Qty	Expected CUM Qty
001	001	Line 1	415	415	412

2. Since there is remaining capacity on production line 1, the system tries to allocate the second order, order 002, to production line 1. When allocating a new order, the system first subtracts the excessive quantity caused by round-up from the quantity of the new order.

   If the remaining capacity on the current production line is insufficient to meet the required capacity of the second order, the second order needs to be divided. The system calculates the order quantity for the new order by rounding up the remaining capacity by order multiple.
   In this example, as the system has rounded up the quantity of order 001 from 412 to 415 to meet the order multiple, the system now has to subtract 3 from the original quantity of order 002, which is 311, and reaches 308.
   The remaining capacity on production line 1 is 138, but the quantity that needs to allocate for order 002 is 308 now. So the system divides order 002, allocates a quantity of 140 to production

line 1 via a new order (order 004), and leaves the leftover quantity of 168 on order 002.

Order#	Original Order #	Production Line	Quantity Allocated
001	001	Line 1	415
004	002	Line 1	140

3. Since all capacity on production line 1 is consumed, the system then tries to allocate the leftover quantity of the second order to the second production line.

   The system checks whether the leftover quantity is equal to or less than the capacity of the second production line:

   - If so, the system directly allocates the leftover quantity to the second line, but needs to determine whether it should round up or round down the quantity by the order multiple.

     The system first tries to round down the leftover quantity. If the actual CUM quantity of all newly created orders, including this one, is greater than the expected CUM quantity of the original order, then the system rounds down the quantity. Otherwise, the system rounds up the leftover quantity by the order multiple.

   - If not, the system divides the order and rounds up or rounds down the order quantity of the new order by the order multiple.

   In this case, the leftover quantity of order 002 is 168, which is less than the capacity of production line 2 (369), so it could be allocated to line 2. Considering the order multiple 5, the system first tries rounding it down from 168 to 165. Then the CUM quantity is 720, which is less than the expected CUM quantity (723). So the system needs to round it up from 168 to 170. Now the actual CUM quantity is 725, which is greater than the expected CUM quantity (723), but the difference is less than one order multiple, the round-up logic applies.

Order#	Original Order #	Production Line	Quantity Allocated	Actual CUM Qty	Expected CUM Qty
001	001	Line 1	415	415	412
004	002	Line 1	140		
002	002	Line 2	170	725	723

4. The system repeats preceding steps to allocate the other orders one by one, until all orders are allocated.

   In this example, the allocation results are as follows:

Order#	Original Order #	Production Line	Quantity Allocated	Actual CUM Qty	Expected CUM Qty
001	001	Line 1	415	415	412
004	002	Line 1	140		
002	002	Line 2	170	725	723
004	003	Line 2	200	925	922

The total order quantity in original orders is 922. After production line allocation, the total CUM quantity of all orders is 925. The difference between them is 3, which is less than one order multiple (5).

When an order is divided, the BOM and Routing codes of the new order are reset according to the new production line. You can check the BOM and Routing codes for the item/production line in the Item Production Line records.

Production Line Leveling

The production line leveling function simplifies the task of the production scheduler by automatically dividing and rescheduling production orders on a production line to meet demand, in order of priority and due date.

The production scheduler sets the values for scheduling parameters that determine the priority and how orders are scheduled.

For example, automotive suppliers might have demand from OEM customers for the final assembly of new vehicles, and demand from after-market customers for replacement parts. By assigning OEM customers a higher priority, the leveling process creates schedules to supply demand from those customers when capacity is limited, by rescheduling supply to meet demand from lower-priority after-market customers.

With production line leveling, a leveled schedule is created with a balanced mix of items on a production line. This helps reduce unevenness in productivity and quality, as well as overburdening of machines and workers.

To conduct production line leveling, you can use various methods like Finite Capacity By Priority Leveling, Item Mix Leveling, Finite Capacity By Priority-Item Mix Leveling, Finite Forward Leveling, and EPEI Leveling.

Note You can set Leveling Load Method in **Leveling Codes** to EPEI, FinFwd (Finite Forward), FinPrio (Finite Capacity By Priority), ItemMix (Item Mix), or FinMix (Finite Capacity By Priority-Item Mix).

Finite Capacity By Priority Leveling

During production line leveling, the system identifies the leveling code for each production line that meets the search criteria, and obtains the leveling parameters for each production order according to its schedule

type. If the schedule type of an order is left blank or has not been set on the corresponding production line, the default schedule parameters defined in **Planning Control** is used.

The method illustrated below works on the run time of the production line for each day.

1. The system first calculates the production line capacity in each day according to:
   - Production Line Calendar if the item is a non-Kanban item: *Production Line Capacity per Day = Working Hours per Day * Number of Lines * Flex Factor*

     For example, when there are eight working hours on each working day, four lines are available, and Flex Factor is set to 150%, then the capacity of each day is calculated as follows: Production Line Capacity per Day = 8 (Working Hours per Day) * 4 (Number of Lines) * 150% (Flex Factor) = 48 Hours.
     The calendar priorities in this situation are as follows: Production Line Calendar > Site Calendar > Domain Calendar. For example, if no production line calendar is available, the system then searches for the site calendar and uses it instead.
   - Kanban Process Calendar if the item is a Kanban item: *Production Line Capacity per Day = Total Available Time * Number of Resources * Uptime Percent * Flex Factor*

     Note Flex Factor is a field in **Production Lines**, which is used to inflate or deflate the capacity of a production line.

     For example, when there are eight working hours on each working day, four resources are available, and Uptime Percent and Flex Factor are set to 200% and 50% respectively, then the capacity of each day is calculated as follows: Production Line Capacity per Day = 8 (Total Available Time) * 4 (Number of Resources) * 200% (Uptime Percent) * 50% (Flex Factor) = 32 Hours.
     The calendar priorities in this situation are as follows: Kanban Process Calendar > Production Line Calendar > Site Calendar > Domain Calendar. For example, if no Kanban process calendar is available, the system then searches for the production line calendar and uses it instead.
2. The system loads the fixed orders in the horizon and allocates capacity to them first because these orders cannot be moved. The system allocates capacity to the fixed orders according to: **Qty Ordered - Qty Scrapped - Qty Completed**.

   If two or more different orders are arranged on one day to manufacture the same item on the production line, the setup time is included in the first order for the item within the day. Other orders for the item within the day do not include setup time.
   When the load of fixed orders exceeds the capacity for that day, the system consumes the difference between the capacity required for

the order (that is, run time + setup time) and the remaining capacity on the due date of the order to the previous working days. Setup time is treated to be conducted on the order's due date even though the remaining capacity is insufficient to perform the whole setup for the item. This means if there is an order with the same item on the previous day, the setup time is considered.
If the due date of a fixed order is a non-working day, the system leaves the order on the original day and consumes the capacity of the previous working day. The system never consumes a future day's capacity in this case.
Fixed production orders are categorized into two types and are loaded in sequence:

- Orders that are in Exploded, Allocated, or Released status, or orders that are in Firmed status but for which Auto Schedule is set to No.
- Orders with Auto Schedule set to Yes, but Restriction set to Fixed or Swing Days set to 0.

3. Next, the system loads non-fixed orders, that is, orders in Firmed status with Auto Schedule set to Yes.

   Non-fixed orders are loaded by priority. The system loads the non-fixed orders with the highest priority first. It then checks and levels them by due date, by bigger manufacturing time, by run sequence, and by item number in sequence. After leveling orders with the highest priority, the system loads the orders with the second highest priority and starts to level them by using the same logic.

   Note Manufacturing time refers to the sum of setup time and run time. For a Kanban item, its cycle time is used as the run time.

   The system starts with the orders that have the earliest due date. If an order is placed on a non-working day, the system moves it to the previous working day. If the working day is earlier than the start day of the leveling horizon, the system leaves the order on the original due date.
   If the entire quantity can be produced on the date, the system keeps the order with the original due date and quantity, even though the quantity does not meet the order multiple requirement.
   If the capacity overflows by an order, the system uses the following logic to reschedule the order:

   - If Restriction is set to NeedDate, the system can move the order to a date earlier than its Need Date.

     The setting of Swing Days determines whether the order can be scheduled on a previous day. If no capacity is left on all previous days or there is no effective production line defined on the day, and Auto Add Item to Production Line is set to No on the Production Orders panel of **Production Control**, the system moves the order forward until its Need Date. If there is remaining

capacity on a previous day but there is no effective production line defined on the day, and Auto Add Item to Production Line is selected, the system places the order on the previous day and creates an item production line record that starts from today.
The system also considers the setting of Allow Order Split to determine whether to move the order as a whole or to divide it into several orders during re-scheduling. If Allow Order Split is cleared, the order must be moved as a whole.

- If Restriction is set to None, the system checks whether to move the order backward first and then forward.

  The setting of Swing Days determines whether the order can be placed on a previous or future day. The system first considers moving the order backward. If there is no effective production line defined on the previous day and Auto Add Item to Production Line is cleared, the system moves the order forward until its Need Date. If there is remaining capacity on a previous day but there is no effective production line defined on the day, and Auto Add Item to Production Line is selected, the system places the order on the previous day and creates an item production line record that starts from today.
  The system also considers the setting of Allow Order Split to determine whether to move the order as a whole or to divide it into several orders during re-scheduling. If Allow Order Split is cleared, the order must be moved as a whole.

- When dividing an order, the system adds a setup time to the newly created order, if the item is not scheduled on the same day. During order division, the system also considers the Rounding Option setting. If Rounding Option is set to One, the minimum order quantity that can be divided is one. If Rounding Option is set to Order Multiple, the order quantity that can be divided must meet the order multiple requirement. The system first checks whether there is sufficient capacity to generate the minimum quantity for the order. If there is sufficient capacity, a new order is created for the day. If the capacity is insufficient, the system skips this day and tries to place the order on another day. If there is no capacity for all the available working days, the system leaves the leftover quantity on the original due date.

  The system determines the minimum order quantity according to the value of Rounding Option. If Rounding Option is set to One, the minimum order quantity is one. If Rounding Option is set to Order Multiple, the system calculates the leftover quantity when generating new orders. The initial leftover quantity is equal to the original order quantity. Once a new order is created, the system subtracts the quantity of the new order from the initial leftover quantity. If the newly calculated leftover quantity is equal to or larger than the Order Multiple value, the minimum order quantity equals the Order Multiple value. If the newly calculated leftover

quantity is smaller than the Order Multiple value, the minimum order quantity equals the new leftover quantity. This indicates after leveling, the total quantity in all new orders is equal to the original order quantity.
If the production line is associated to a Kanban process, the system uses Kanban Quantity as Order Multiple of the item; in other cases, the system uses the Order Multiple value defined in item or item-site planning data.
If the original order is a discrete schedule order, the orders generated after division are associated to the same discrete CUM order.

4. Once an order has been leveled on an earlier date, the system does not level it again when conducting leveling on a later date.
5. After leveling orders with the highest priority, the system levels the orders with lower priorities across the horizon.

EPEI Leveling

QAD Adaptive ERP supports the Every Part Every Interval (EPEI) leveling method, with which the system can level the daily schedule of a production line based on the average daily quantity.

The primary reason for leveling production stems from the fact that production schedules are uneven. This presents fluctuations in the demand for production resources—demand that can often exceed the capacity for any given day. So the major objective for leveling is to reduce the variability of demand for materials and the capacity requirements for production resources. By creating a regular and constant rate of production, the system helps smooth the production of items to increase responsiveness to changing customer demand and to increase the product availability to satisfy that demand.

The effectiveness of leveling is directly related to the degree that production intervals can be reduced. The smallest production interval is called Every Part Every Interval (EPEI) and refers to an interval during which every item can be set up and produced within a time bucket.

EPEI leveling is commonly used in lean manufacturing, to reduce inventory and shorten manufacturing lead time. With EPEI leveling, all PSA orders can be evenly dispersed among the EPE intervals in a time bucket.

EPEI leveling applies to the production orders whose specified production lines are associated with the EPEI leveling method.

Note You can use **Production Lines** or **Production Line Leveling Code Assignment** to manage the leveling codes associated to production lines.

When no specific leveling code is defined for a production line, the system adopts the EPEI leveling method for this line by using the EPEI leveling defaults defined in Planning Control.

When Leveling Load Method is EPEI in Leveling Codes, you can also set the Scheduling Basis field to Takt or Runtime to make the system schedule orders by takt time or by manufacturing time.

EPEI Leveling by Takt

Takt time is the average pace at which items are produced on a production line. When you set the Scheduling Basis field in **Leveling Codes** to Takt, the system calculates the EPEI, the smallest interval that every scheduled item can be set up and produced within a time bucket. The EPEI leveling process then schedules items to be set up and produced within a time bucket using takt time with the minimum EPEI considered when necessary.

1. The system first determines the time bucket.

   You can set the Time Bucket field in **Leveling Codes** to determine the length of time buckets. Then the system can calculate the number of time buckets within the production scheduling horizon.
   In a given production scheduling horizon, there can be multiple EPEI time buckets for one production line, and each EPEI time bucket can be further divided into several EPEI intervals.

   Note

   The unit of time buckets could be days, weeks, or months. When Time Bucket is set to 0 days, weeks, or months, the time bucket refers to the whole production scheduling horizon.

   If the start effective date of the production line is later than the calculated bucket start date and Auto Add Item to Production Line is selected on the Production Orders panel of **Production Control**, the system adjusts the bucket start date to the start effective date of the production line. If Auto Add Item to Production Line is selected in this case, the system automatically creates an item production line record starting from today.
   For details about how to set Time Bucket, see the field description in Leveling Codes.
2. The system calculates the total available time on the production line in the time bucket:

   *Total available time in time bucket = Production line capacity per day * Number of working days in time bucket*
   The production line capacity on each working day is calculated according to:

   - Kanban Process Calendar if the item is a Kanban item: *Production line capacity per day = Total available time * Number of resources * Uptime percent * Flex factor*

     Note Flex Factor is a field in **Production Lines**, which is used to inflate or deflate the capacity of a production line.

For example, when there are eight working hours on each working day, four resources are available, and Uptime Percent and Flex Factor are set to 200% and 50% respectively, then the capacity of each day is calculated as follows:
*Production line capacity per day = 8 (Total available time) * 4 (Number of resources) * 200% (Uptime percent) * 50% (Flex factor) = 32 hours*
The calendar priorities in this situation are as follows: Kanban Process Calendar > Production Line Calendar > Site Calendar > Domain Calendar. For example, if no Kanban process calendar is available, the system then searches for the production line calendar and uses it instead.

- Production Line Calendar if the item is a non-Kanban item:
  *Production line capacity per day = Total available time * Number of lines * Flex factor*

  For example, when there are eight working hours on each working day, four lines are available, and Flex Factor is set to 150%, then the capacity of each day is calculated as follows:
  *Production line capacity per day = 8 (Total available time) * 4 (Number of lines) * 150% (Flex factor) = 48 hours*
  The calendar priorities in this situation are as follows: Production Line Calendar > Site Calendar > Domain Calendar. For example, if no production line calendar is available, the system then searches for the site calendar and uses it instead.

When there is insufficient capacity to perform one setup for all items, the system displays a warning message, stating how much more capacity is required. The system calculates the total load required for one setup, spreads the extra capacity required (that is, the difference between the total load required and the available capacity) over the available working days, and performs leveling. The total capacity required is calculated as follows:
*Total capacity required = Sum (Fixed order qty*Run time + Setup time) + Sum (Item qty*Run time + Setup time)*

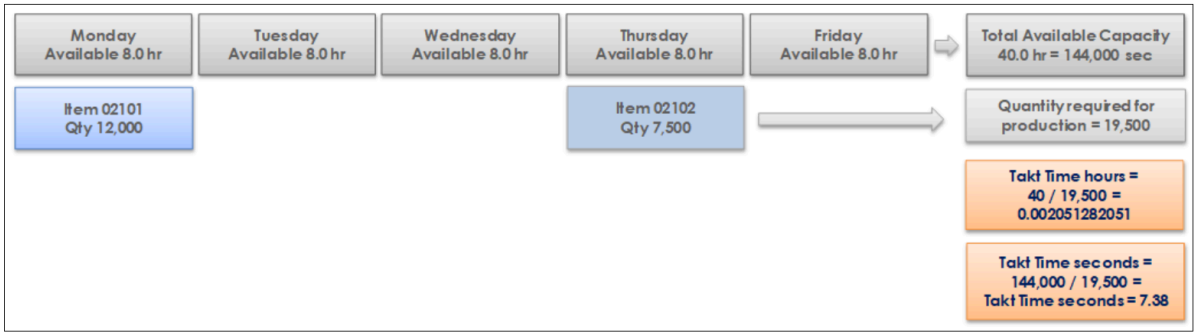
3. The system calculates takt when Scheduling Basis is Takt.

   Takt time can be expressed as:
   Takt time = Total available capacity for production in a time bucket / Total quantity required for production (for both fixed and non-fixed orders) in the time bucket

   Note The fixed order quantity is expressed as:

   Fixed Order Quantity = Quantity Ordered - Quantity Completed - Quantity Rejected

   The following diagram illustrates the calculation of takt time.



The leveling program can schedule orders using takt time. Takt time is also used to determine the maximum quantity that can be produced in a day.

4. Then the system determines the maximum quantity that can be produced in a day, where:

   Daily maximum quantity = Daily available time / Takt time

5. The system loads the fixed orders in the scheduling horizon first:

   *Time used by fixed orders = Fixed order qty * takt time*

   Fixed orders are orders that are in Exploded, Allocated, or Released status.

   The system schedules fixed orders backward from their due date, and loads the fixed orders according to the daily maximum quantity for the due date. If the load of fixed orders exceeds the daily maximum quantity, the system reserves capacity from the day right before the due date, but does not divide the fixed orders. The system continues the process until all fixed orders are loaded or all capacity is consumed. If two or more fixed orders are on the same due date, and they require more capacity than the maximum capacity allowed on the day, the system considers the run sequences of the order items to determine order priorities.

   The run sequence determines the priorities of items during leveling. The run sequence of an item is defined in the Run Sequence 1 and Run Sequence 2 fields in **Production Lines**. Even for a Kanban item, the system uses the run sequences defined for it on the production line to determine the sequence when loading items into the schedule. For example, items 01010 and 01020 are defined to produce on the same production line. Orders for both items have been planned by **Production Scheduling Automation** and are due on the same date. In addition, the Run Sequence 1 field for item 01020 is 1 and that for item 01010 is 2. In this case, the system schedules item 01020 and then item 01010 on the production line. If the Run Sequence 1 field is set to be the same for both items, the systems then checks the Run Sequence 2 field to determine which order to schedule first. If no run sequence is found or both Run Sequence 1 and Run Sequence 2 are the same for the items, the system schedules the items according to their item numbers.

   The system takes co-/by-product orders and discrete schedule orders as fixed orders.

Both Kanban items and non-Kanban items can be leveled together on the same production line. If a production line is defined as a pacemaker process in the Kanban process, the system uses the process calendar to level the orders; if the Kanban calendar has not been set up for the Kanban process, the production line calendar or site calendar is used.

- For a Kanban item, the Cycle Time and Setup Time values defined for it in the Kanban process are used to calculate the time required for production. For a non-Kanban item, its Planning Units/Hour and Setup Time values are used for calculation.
- If the production line is associated with a Kanban process, and the EPEI Auto field in Kanban Processes is set to No for the item, the system uses the existing EPEI set in Kanban Processes. If EPEI Auto is Yes or the production line is not associated with a Kanban Process, the system uses the calculated EPEI or the minimum EPEI.

6. The system then calculates the number of changeovers and determines the order quantity for the non-fixed orders.

   Number of changeovers = (Total available time for non-fixed orders – Total run time) / Total setup time for each item
   where,
   Total available time for non-fixed orders = Total available time – Time required for fixed orders – Time required for non-auto EPEI items
   and
   *Time required for fixed Orders = Sum (Order qty * Run time per Unit + Setup time if setup is required)*
   *Time required for non-auto EPEI items = Total run time for these items + Sum [Setup time * Round-up (Total available time for non-fixed orders/EPEI in hours)]*

   Note Non-auto EPEI items refer to the Kanban items with Auto EPEI set to No in Kanban Processes.

   EPEI in hours here refers to the EPEI value defined in Kanban Processes. The system converts this value in unit of hour if needed.

   If there are multiple non-auto EPEI items, the system first calculates the time required for the items with the highest run sequence, which is:
   *Time required for the items with the highest run sequence = Total run time for these items + Sum [Setup time * Round-up (Total available time for non-fixed orders/EPEI in hours)]*
   Then the system subtracts the time required for the items with the highest run sequence from the total available time for non-fixed orders, and starts to calculate the time required for the items with the second highest run sequence. The system continues performing this process until the time required for all non-auto EPEI items is calculated.
   Leveling Intervals: Calculated EPEI and Minimum EPEI

The system calculates EPEI according to the following formula:
Calculated EPEI = Total available time for non-fixed orders / Number of changeovers
The system calculates the EPEI and then compares it with the preset minimum EPEI.

Note If the calculated number of changeovers is a decimal, the system rounds it down first and calculates the EPEI using the value obtained through round-down. Then the system compares the calculated EPEI with the minimum EPEI. If the calculated EPEI is smaller than the minimum EPEI, the system uses the minimum EPEI to calculate the EPEI order quantity.

After the minimum EPEI is applied for an item, the system recalculates the EPEI for the other items. If then the recalculated EPEI is greater than the minimum EPEI of all rest items, the system uses the recalculated EPEI for the rest items to create orders; otherwise, the system continues to subtract the manufacture time needed for the item that the system newly applies the minimum EPEI, from the total available time for non-fixed orders, and calculates a new EPEI for the other items.

For a Kanban item whose Auto EPEI is set to No, the system uses the EPEI value entered in Kanban Processes. If the minimum EPEI is expressed in Days, the system uses the available time defined in the Kanban process and converts the minimum EPEI into hours; if the minimum EPEI is expressed in Weeks or Months, the system considers the working days and converts it into hours.
If there are multiple items for which the system should apply the minimum EPEI, the system calculates the time required for the items with the largest EPEI first, in which:
*Time required for the items with the largest EPEI = Total run time for these items + Sum [Setup time * Round-up(Total available time for non-fixed orders/EPEI in hours)]*
Then the system subtracts the time required for the items with the largest EPEI from the total available time for non-fixed orders, and calculates the time required for the items with the second largest EPEI. The system continues the processing until the time required for all such items is calculated.

EPEI Order Quantity

The EPEI order quantity is calculated as:
EPEI order qty for each item = Total demand /Number of changeovers
EPEI leveling requires that the order quantity for an item be the same in each standard EPE interval. The actual order quantity, however, must be an integer. So the system should round the order quantity up or down to an integer or to a value honoring the order multiple, depending on the setting of Round Option. The system first tries rounding down the order quantity, and then checks whether the actually accumulated (CUM) order quantity is larger than or equal to the expected CUM EPEI quantity. If so, the system uses the quantity

reached through round-down; if not, the system rounds up the order quantity.

Note If the original order quantity is a decimal, the quantity of the last order is set to a decimal to make sure that the total quantity of orders created after division does not exceed the original order quantity.

Generally, the system uses the Order Multiple value defined in item or item-site planning data. If the production line is associated to a Kanban process, the system uses the value of Kanban Quantity in Kanban Masters as the order multiple for the item.

7. The system schedules orders on each working day or shift according to the capacity and run sequence of the item.

   Before scheduling orders, the system calculates the takt time and determines the daily maximum quantity. When scheduling an order on a day, the system can divide it into two orders and place one on the following day to make sure that the accumulated quantity on the first day does not exceed the daily maximum quantity.
   When scheduling a second order for an item on a day, the system compares the actual interval between the first order and the second order, with the required interval (*Number of EPE intervals * EPEI*) to decide whether the second order for this item can be placed on the day. For example, if the applied EPEI for an item (item A) is 10 hours, but the actual interval is 9 hours after the first order for item A is placed, the system cannot place another order for item A on the day. The system then tries scheduling an order for another item (item B) instead. If the actual interval between two orders for item B is equal to or less than the interval required for item B, the system can schedule a second order for item B.

   Note If you have set the minimum EPEI for item B, and the actual interval is less than the minimum EPEI, the system does not directly schedule item A or item B. The system spares the time until it can start production for at least one item. If the spare time needed for all items are the same, the system schedules the item whose Run Sequence is just behind the item in the previous non-fixed order.

8. The system sets the sequence to the newly generated orders if Update Order Sequence is set to Yes.

   If Shift Scheduling is Shift, orders are scheduled by each shift and sets the shift number on the newly generated orders.
   If Shift Scheduling is Day, the system summarizes the capacity by all shifts in the day and schedules orders by day. In this case, the Shift field is left blank on the newly created orders.

   Note Both Update Order Sequence and Shift Scheduling are maintained in **Leveling Codes**.

   If Rounding Option is set to Order Multiple, the system rounds the quantity of the created order according to Order Multiple. Generally, the system uses the Order Multiple value defined in item or item-

site planning data. If the production line is associated to a Kanban process, the system uses the value of Kanban Quantity in Kanban Masters as the order multiple for the item. When scheduling orders to each working day, the system may lead to a larger total order quantity on the day, which is larger than the daily maximum quantity, because of the order multiple. The difference, however, is less than one order multiple and is consumed from the next working day. If the original order quantity is not in order multiple, the residual quantity is left on the last order.

EPEI Leveling by Run Time

If you set the Scheduling Basis field in **Leveling Codes** to Runtime, the system calculates the time used for fixed orders and that used for non-fixed orders by manufacturing time.

Note Manufacturing time refers to the sum of setup time and run time. For a Kanban item, its cycle time is used as the run time.

The calculation for leveling by run time is quite similar with that for leveling by takt; however, the logic for scheduling EPEI orders is different in the two leveling methods.

The flow for EPEI leveling by run time is as follows:

1. The system first determines the time bucket.

   For details, see EPEI Leveling by Takt on page 3298.
2. The system calculates the total available time in the time bucket.

   For details, see EPEI Leveling by Takt on page 3298.
3. The system calculates the number of changeovers and the EPEI for each item.

   For details, see EPEI Leveling by Takt on page 3298.
4. The system loads the fixed orders in the scheduling horizon first.

   *Time used by fixed orders = Fixed order qty * Run time + Setup time*

   Note The formula for calculating the time used by fixed orders in leveling by run time is different with that in leveling by takt. For details, see EPEI Leveling by Takt on page 3298.
5. The system calculates the EPEI order quantity and schedules each EPEI order according to its manufacturing time.

   For example, assume that there are four orders for manufacturing item 01010 and the order quantity in each order is 20. In addition, the setup time and run time for item 01010 are 1 hour and 0.25 hours per unit, respectively. There are three working days from Monday to Wednesday, and each of them has a capacity of eight working hours.

   a. The system loads order 001 first and subtracts the setup time for this order from the daily capacity.

      According to the formula:
      *Time required for order 001 = Order qty*Run time + Setup time*

The time required for order 001 is six hours. So the system places order 001 on Monday, and there is a remaining capacity of two hours on Monday.

b. The system then loads the second EPEI order.

In this example, both order 001 and order 002 are to manufacture items 01010, so the system calculates the setup time only once on each day. If the items in order 001 and order 002 are different, the system needs to subtract the setup time from the daily capacity first. If the remaining capacity on the first day is insufficient for producing one order multiple, the system schedules a quantity equal to the order multiple on the day and decreases the overload hours from the next working day.
As there are two working hours remaining on Monday, the system calculates how many units of item 01010 in order 002 could be placed on Monday by:
Available working hours/Run time = 2/0.25 = 8
So the system allocates eight units of item 01010 from order 002 to Monday.

	Monday	**Tuesday**	**Wednesday**
Capacity	8 hours	8 hours	8 hours
Allocated Quantity	A qty of 20 from order 001	A qty of 12 from order 002	
	A qty of 8 from order 002		
Consumed Capacity	8 hours	3 hours	

c. The system continues the process and schedules the other orders.

The leveling result is as follows:

	Monday	**Tuesday**	**Wednesday**
Capacity	8 hours	8 hours	8 hours
Allocated Quantity	A qty of 20 from order 001	A qty of 12 from order 002	A qty of 20 from order 004
	A qty of 8 from order 002	A qty of 20 from order 003	
Consumed Capacity	8 hours	8 hours	5 hours

6. The system uses the same logic like EPEI leveling by takt to compare the actual interval between orders and the EPEI to decide on which day the order can be placed.

7. The system sets the sequence to the newly generated orders if Update Order Sequence in **Leveling Codes** is set to Yes.

   If Shift Scheduling is Shift, orders are scheduled by each shift and sets the shift number on the newly generated orders.
   If Shift Scheduling is Day, the system summarizes the capacity by all shifts in the day and schedules orders by day. In this case, the Shift field is left blank on the newly created orders.

Finite Forward Leveling

Finite Forward leveling is a scheduling technique that builds a production schedule by proceeding sequentially from the initial period to the final period while observing capacity limits.

In this way, the system automatically calculates production orders based on the capacity constraints of the specified production line, and consumes production line capacity starting from the scheduling horizon start date. The system pulls or pushes production to make sure that the production line capacity is fully consumed.

During Finite Forward leveling, fixed production orders are not moved but consume daily capacity first. The system then moves non-fixed production orders by due date to the earliest date on which the capacity is available.

Note

Fixed production orders include:

- Orders that are in Exploded, Allocated, or Released status.
- Orders that are in Firmed status but for which Auto Schedule is set to No.
- Orders with Auto Schedule set to Yes, but Restriction set to Fixed or Swing Days set to 0.

Non-fixed production orders are those that are in Firmed status with Auto Schedule set to Yes.

The workflow for Finite Forward leveling is as follows:

1. The system first identifies the production orders that meet the following conditions:
   - Production line of the order is set to use Finite Forward leveling.
   - Due date of the order falls in the production scheduling horizon.
2. The system calculates the total available capacity on the production line.

   The production line capacity in each day is calculated according to:
   - Production Line Calendar if the item is a non-Kanban item: *Production Line Capacity per Day = Working Hours per Day * Number of Lines * Flex Factor*

For example, when there are eight working hours on each working day, four lines are available, and Flex Factor is set to 150%, then the capacity of each day is calculated as follows: Production Line Capacity per Day = 8 (Working Hours per Day) * 4 (Number of Lines) * 150% (Flex Factor) = 48 Hours.
The calendar priorities in this situation are as follows: Production Line Calendar > Site Calendar > Domain Calendar. For example, if no production line calendar is available, the system then searches for the site calendar and uses it instead.

- Kanban Process Calendar if the item is a Kanban item: *Production Line Capacity per Day = Total Available Time * Number of Resources * Uptime Percent * Flex Factor*

  Note Flex Factor is a field in **Production Lines**, which is used to inflate or deflate the capacity of a production line.

  For example, when there are eight working hours on each working day, four resources are available, and Uptime Percent and Flex Factor are set to 200% and 50% respectively, then the capacity of each day is calculated as follows: Production Line Capacity per Day = 8 (Total Available Time) * 4 (Number of Resources) * 200% (Uptime Percent) * 50% (Flex Factor) = 32 Hours.
  The calendar priorities in this situation are as follows: Kanban Process Calendar > Production Line Calendar > Site Calendar > Domain Calendar. For example, if no Kanban process calendar is available, the system then searches for the production line calendar and uses it instead.

Example

Assume that there are eight working days in the production scheduling horizon, with a capacity of six working hours available on each day. Three items—01001, 01002, and 01003—are involved for production and leveling. The orders for manufacturing item 01003 are all fixed production orders (orders are in Firmed status but Auto Schedule is set to No). The detailed settings for the other two items and their corresponding orders are as follows:

- Restriction: None
- Allow Split Order: Yes
- Swing Days: 5
- Order Multiple: 1

The current production requirement before leveling is as follows, according to the order due dates:

Note In the table below, each cell represents one-hour working capacity to be consumed by a fixed order or by the item listed.

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
					01001		

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
					01001		
		01003			01001		
	01002	01003		01003	01001	01003	
Capacity Limit							
	01002	01002		01003	01001	01003	01003
	01002	01002		01002	01001	01003	01002
	01002	01002		01002	01001	01003	Fixed
01001	01001	01001		01001	01001	01003	Fixed
01001	01001	01001	Fixed	01001	01001	01003	Fixed
Fixed	Fixed	Fixed	Fixed	Fixed	01001	01001	Fixed

3. The system loads the fixed production orders in the horizon and allocates capacity to them first because these orders cannot be moved. The system allocates capacity to the fixed orders according to: **Qty Ordered - Qty Scrapped - Qty Completed**.

   If two or more different orders are arranged on one day to manufacture the same item on the production line, the setup time is included in the first order for the item within the day. Other orders for the item within the day do not include setup time.
   If the load of fixed production orders exceeds the capacity for that day, the system consumes the capacity of previous days and tracks the data for later reference.
   Fixed production orders are categorized into two types and are loaded in sequence:

   - Orders that are in Exploded, Allocated, or Released status, or orders that are in Firmed status but for which Auto Schedule is set to No.
   - Orders with Auto Schedule set to Yes, but Restriction set to Fixed or Swing Days set to 0.

   a. The system first loads the fixed orders, which are in Exploded, Allocated, or Released status, or which are in Firmed status but Auto Schedule is set to No.

      In this example, the system consumes the capacity like the following:

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Capacity Limit							

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
							Fixed
							Fixed
			Fixed				Fixed
Fixed	Fixed	Fixed	Fixed	Fixed			Fixed

b. The system then loads the fixed orders with Auto Schedule set to Yes, but Restriction set to Fixed or Swing Days set to 0.

In this example, the capacity required for manufacturing item 01003 is listed as follows:

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Capacity Limit							
						01003	
						01003	01003
						01003	Fixed
		01003		01003		01003	Fixed
		01003	Fixed	01003		01003	Fixed
Fixed	Fixed	Fixed	Fixed	Fixed		01003	Fixed

4. Next, starting from the scheduling horizon start date, the system loads non-fixed production orders by due date and schedules them day by day.

The system schedules non-fixed orders according to the following factors: first by Due Date, then by Order Priority, by bigger Manufacturing Time (setup time + run time), by Order Run Sequence 1, by Order Run Sequence 2, by Item Code, and finally by Production Order ID.
The system sorts all non-fixed orders in the horizon, and first loads the order that ranks No. 1 in the list. After that, it loads the one ranked No. 2, and then No. 3, and so on in sequence.
The system checks whether there is sufficient capacity on the current date.

- **When there is extra capacity left after all orders whose due date is on the current date are loaded:**

  The system pulls production orders from the next date by scheduling priority as listed above, so as to consume the remaining capacity on the day.

  Note When moving production orders, the system does not move an order out of its specified Swing Days range. Besides, when moving an order to or creating an order on the current date, the

system also updates the release date and due date of the order to the current date.

The system considers order division when it cannot move a whole order to the current date due to capacity limitation. In this case, the system checks the setting of Allow Order Split, which determines whether an order should be moved as a whole or can be divided into several orders during re-scheduling:

- If Allow Order Split is Yes: Order division is allowed, so the system can divide the order and move part of production on the order to the current date.
- If Allow Order Split is No: The order must be moved as a whole and cannot be divided. Therefore, the system will not move the order.

Note that if the remaining capacity on the current date does not meet the order multiple requirement, it could be overloaded up to one order multiple. The system does not consume the extra capacity on the following working day.
The Rounding Option setting is also considered during order division. For details, refer to Finite By Priority Leveling.
In this example, after loading the non-fixed orders whose due date is Day 1, the system finds there are three hours remaining on Day 1, so it can continue to schedule the current top orders in the non-fixed order list (for example, the orders for items 01001 and 01002 whose due date is Day 2) to consume the remaining capacity on Day 1.
The system continues to schedule orders for Day 2, and then Day 3, Day 4, and Day 5 day by day, making sure that the capacity on each day is fully consumed.

Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Day 8**
Capacity Limit							
01002 (from Day 2)	**01001 (from Day 3)**	01002	**01002 (from Day 5)**	**01001 (from Day 6)**		01003	
01001 (from Day 2)	**01001 (from Day 3)**	01002	**01002 (from Day 5)**	**01001 (from Day 6)**		01003	01003
01001 (from Day 2)	01002	01002	**01001 (from Day 5)**	**01001 (from Day 6)**		01003	Fixed
01001	01002	01003	*01001 (from Day 5)*	01003		01003	Fixed

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
01001	01002	01003	Fixed	01003		01003	Fixed
Fixed	Fixed	Fixed	Fixed	Fixed		01003	Fixed

- **When there is insufficient capacity on the current date:**

  The system then tries pushing orders back to the non-fixed order list.

  Note When scheduling production orders, the system does not schedule an order to a date that is out of its specified Swing Days range. In addition, when moving an order to or creating an order on a future date, the system also updates the release date and due date of the order to the future date.

  When Restriction is set to NeedDate, the system can schedule the order to a date earlier than its Need Date.
  The system considers order division when it cannot schedule a whole order on the current date due to capacity limitation.

  - If Allow Order Split is Yes: Order division is allowed, so the system can divide the order and move part of production on the order to the future.
  - If Allow Order Split is No: The order must be moved as a whole and cannot be divided. Therefore, the system will not divide the order.

  The Rounding Option setting is also considered during order division. For details, refer to Finite By Priority Leveling.
  When there is an order that cannot be pushed back to the non-fixed order list due to Swing Days or Restriction settings, the system tries moving one or some of the orders that have been loaded on this day back to the non-fixed order list by following the rules listed below:

  - When choosing from the loaded orders, the system adopts the reverse of the loading sequence. For example, assume that there are five orders on a specific day, among which orders 10001, 10002, and 10003 have been loaded in turns, while the load of orders 10004 and 10005 exceeds the capacity of the day and both of them cannot be moved to the future. In this case, the system first tries moving order 10003 to future days, then order 10002, and finally order 10001 when needed.
  - The candidate orders must be those that can be moved to the future. For example, an order whose Due Date is on the current date but Need Date is three days later may be moved back to the non-fixed order list so as to make room for another order that must be placed on the current date.

In this example, when scheduling production on Day 6, the system finds the available capacity on Day 6 is insufficient to meet the load from the orders that are due on Day 6, and one more working hour is required for manufacturing item 01001. The system tries moving the order for 01001 from Day 6 to a future date. It first checks the capacity on Day 7 and finds there is no available capacity left. So the system continues to check for Day 8. There is one hour available, so the system moves the order for 01001 from Day 6 to Day 8 for production.

Then the system schedules production for Day 7. All capacity on Day 7 is consumed by the fixed orders for item 01003. The system cannot arrange any non-fixed orders on Day 7.

Then for Day 8, the fixed orders for item 01003 and the order moved from Day 6 consume all capacity on Day 8.

As all capacity in the horizon is consumed, the system leaves the leftover non-fixed orders on their original due dates. That is, one more working hour for item 01001 is required on Day 7, as well as one more working hour for item 01002 on Day 8.

The final leveling result is as follows:

Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Day 8**
						01001	01002
Capacity Limit							
01002 (from Day 2)	**01001 (from Day 3)**	01002	**01002 (from Day 5)**	**01001 (from Day 6)**	01001	01003	**01001 (from Day 6)**
01001 (from Day 2)	**01001 (from Day 3)**	01002	**01002 (from Day 5)**	**01001 (from Day 6)**	01001	01003	01003
01001 (from Day 2)	01002	01002	**01001 (from Day 5)**	**01001 (from Day 6)**	01001	01003	Fixed
01001	01002	01003	**01001 (from Day 5)**	01003	01001	01003	Fixed
01001	01002	01003	Fixed	01003	01001	01003	Fixed
Fixed	Fixed	Fixed	Fixed	Fixed	01001	01003	Fixed

Item Mix Leveling

Item Mix leveling helps reduce the inventory cost by scheduling orders on the production line in a way that the number of item types is the same or close to each other for each day in the production scheduling horizon.

The procedures for Item Mix leveling are as follows:

1. The system first identifies the production orders whose production lines are set to use the Item Mix leveling or Finite Capacity By Priority-Item Mix leveling method.

   Note Use **Leveling Codes** to define leveling load methods for leveling codes. Then set the Leveling Code field in **Production Lines** or **Production Line Leveling Code Assignment** to associate a leveling code to a production line. The system performs leveling on the production line according to the selected leveling load method and the maintained parameters.

2. The system calculates the production line capacity in each day according to:

   - Production Line Calendar if the item is a non-Kanban item: *Production Line Capacity per Day = Working Hours per Day * Number of Lines * Flex Factor*

     For example, when there are eight working hours on each working day, four lines are available, and Flex Factor is set to 150%, then the capacity of each day is calculated as follows: Production Line Capacity per Day = 8 (Working Hours per Day) * 4 (Number of Lines) * 150% (Flex Factor) = 48 Hours.
     The calendar priorities in this situation are as follows: Production Line Calendar > Site Calendar > Domain Calendar. For example, if no production line calendar is available, the system then searches for the site calendar and uses it instead.

   - Process Calendar of the Kanban process, which is associated with the production line, when the item is a Kanban item: *Production Line Capacity per Day = Total Available Time * Number of Resources * Uptime Percent * Flex Factor*

     Note Flex Factor is a field in **Production Lines**, which is used to inflate or deflate the capacity of a production line.

     For example, when there are eight working hours on each working day, four resources are available, and Uptime Percent and Flex Factor are set to 200% and 50% respectively, then the capacity of each day is calculated as follows: Production Line Capacity per Day = 8 (Total Available Time) * 4 (Number of Resources) * 200% (Uptime Percent) * 50% (Flex Factor) = 32 Hours.
     The calendar priorities in this situation are as follows: Kanban Process Calendar > Production Line Calendar > Site Calendar > Domain Calendar. For example, if no Kanban process calendar is available, the system then searches for the production line calendar and uses it instead.

   When calculating production line capacity, the system takes holiday and calendar exceptions into consideration.

3. The system then obtains the run time and setup time information for all items involved in leveling calculations.

- For a Kanban item, if the process is a pacemaker process, the Cycle Time and Setup Time values defined for it in the Kanban process are used for this item. The cycle time is used as the run time.
- For a non-Kanban item, the system uses its Planning Units/Hour and Setup Time values defined in **Item Production Lines** for calculation.

  Note If the Planning Units/Hour field is set to 0 (zero) in **Item Production Lines**, the system uses the Planning Units/Hour value defined in **Production Lines** instead. Similarly, if the Setup Time value is 0 (zero) in **Item Production Lines**, the system then uses the Setup Time value defined in **Production Lines** instead.

4. The system loads the fixed orders in the horizon by due date, and subtracts the time required for fixed orders, along with setup time when needed, from the capacity on the due date.

   Note Fixed orders are orders that are in Exploded, Allocated, or Released status, or orders that are in Firmed status but for which Auto Schedule is set to No.

   The capacity required for a fixed order is calculated according to the following formula:
   *Capacity Required for a Fixed Order = Order Quantity * Runtime per Unit + Setup Time (when needed)*
   where,
   Whether setup time should be added depends on if any order has been loaded for this item on the day.
   Assume that there is a fixed order for item 01010 on a certain day, with an order quantity of 80. The Setup Time and Planning Units/Hour for item 01010 on the production line are set to 3 hours and 40 respectively.

   - When no order has been loaded for the item on the day:

     *Capacity Required for Fixed Order = Order Quantity * Runtime per Unit + Setup Time*
     So the capacity consumed for this order is calculated as follows:
     *Capacity Consumed for Order = 80 (Order Quantity) * 0.025 (Runtime per Unit, which is converted from Planning Units/Hour) + 3 (Setup Time) = 5 hours*
   - When an order has been loaded for the item on the day:

     *Capacity Required for Fixed Order = (Order Quantity) * (Runtime per Unit)*
     In this case, the capacity consumed for this order is:
     *Capacity Consumed for Order = 80 (Order Quantity) * 0.025 (Runtime per Unit, which is converted from Planning Units/Hour) = 2 hours*

Note that capacity overload caused by fixed orders is allowed in this procedure. For example, the capacity required for fixed orders on a day is 20 hours but the total available time is 16 hours. Then an overloaded capacity of 4 hours is allowed on that day.

5. Next, the system loads non-fixed orders—that is, orders in Firmed status with Auto Schedule set to Yes.

   Non-fixed orders are loaded into the production scheduling horizon by due date as well.
   If there is any order whose due date is on a non-working day, the system reschedules it to the nearest previous working day.

6. The system determines the number of item types on the day.

   The system can load orders for different types of items on a day. All orders for the same item are considered as one item type regardless of the order quantity.
   Example
   Assume that there are orders for four items—01010, 01020, 01030, and 01040—in the production scheduling horizon.
   The detailed setup is provided below:

   - The Planning Units/Hour and Setup Time fields are set as follows for those items:

Item	Planning Units/Hour	Setup Time (Hour)
01010	40 (that is, 0.025 hours per piece)	3
01020	50 (that is, 0.020 hours per piece)	2
01030	60 (that is, 0.017 hours per piece)	1
01040	60 (that is, 0.017 hours per piece)	1

     Note The system converts the Planning Units/Hour values in unit of Hours per Piece, and obtains the run time for these items.

   - There are five working days in the horizon, with a production line capacity of 16 hours on each day.
   - There are several fixed and non-fixed orders for these items in the horizon:

Order/ Item	Day 1	Day 2	Day 3	Day 4	Day 5
Fixed order/Item 01010	A qty of 80 (Run time: 2 hours)		A qty of 120 (Run		

Order/ Item	Day 1	Day 2	Day 3	Day 4	Day 5
			time: 3 hours)		
Fixed order/Item 01020		A qty of 100 (Run time: 2 hours)		A qty of 50 (Run time: 1 hour)	
Fixed order/Item 01030			A qty of 60 (Run time: 1 hour)	A qty of 120 (Run time: 2 hours)	
Non-fixed order/Item 01010	A qty of 40 (Run time: 1 hour)	A qty of 120 (Run time: 3 hours)			A qty of 160 (Run time: 4 hours)
Non-fixed order/Item 01020		A qty of 100 (Run time: 2 hours)	A qty of 150 (Run time: 3 hours)		A qty of 100 (Run time: 2 hours)
Non-fixed order/Item 01030		A qty of 180 (Run time: 3 hours)	A qty of 120 (Run time: 2 hours)		
Non-fixed order/Item 01040			A qty of 60 (Run time: 1 hour)	A qty of 60 (Run time: 1 hour)	
Total Setup Time (Hour)	3	6	7	4	5
Load (Hour)	6	16	17	8	11
Number of Item Types on the Day	1	3	4	3	2

7. The system levels non-fixed orders by performing the following steps:

   Note During Item Mix leveling, the system does not level fixed orders because it cannot change their due dates.

a. The system calculates the average number of item types in the horizon:

   Average Number of Item Types in Horizon = Sum of Number of Item Types on the Day/Number of Working Days
   So in the example above:
   Average Number of Item Types in Horizon = (1+3+4+3+2)/5=13/5=2.6

b. The system calculates the target number of item types for the horizon, which refers to the number of item types the system tries to achieve through Item Mix leveling.

   The objective of this step is to reach the same number of item types on each day in the horizon.
   This number must be an integer. If the calculated **Average Number of Item Types in Horizon** is a decimal, the system then has two target numbers: the floor and the ceiling of the decimal.

   Target Number of Item Types ^{1} = **└(Average Number of Item Types)┘**

   Target Number of Item Types ^{2} **= ┌(Average Number of Item Types) ┐**
   For example, since the calculated **Average Number of Item Types in Horizon** is 2.6, the system obtains two target numbers of item types: one is 2 and the other is 3. This indicates that the number of item types on each day can be either 2 or 3 during leveling.

c. The system checks the number of item types for each day starting from the production scheduling horizon start date, and compares the number with the **Target Number of Item Types** ^{1} (the bigger one) and the **Target Number of Item Types** ^{2} (the smaller one).

   - When the number of item types for the current day is less than the smaller **Target Number of Item Types** (that is, **Target Number of Item Types** ^{2}), the system then tries moving orders from the other day to the current day.

     The system applies the following rules to determine which orders to move and how to move them:

     - The number of item types on From Date is greater than the smaller **Target Number of Item Types** (that is, **Target Number of Item Types** ^{2}).
     - After the system moves the orders for a certain item from the other day to the current day, the number of item types on the current date is increased, and that on From Date is decreased.

This means all the orders for this item on From Date will be moved to the current date and this item is no longer produced on From Date.

- The system does not create new capacity overload for the current date.
- When trying to move orders, the system first checks for orders forwards; if no order is found, the system then checks for orders backwards.
- The system also checks the details defined for the leveling method to determine which orders are to be moved:
  - During Item Mix leveling, the system only moves orders rather then dividing them. Therefore, the system does not consider the setting of Allow Order Split.
  - The system considers the setting of Restriction.

    If Restriction is set to Fixed, the order cannot be moved.
    When moving an order from a previous date but Restriction is NeedDate, the system cannot move the order to a date that is later than its Need Date.
  - When moving orders, the system cannot move an order out of its specified Swing Days range.
  - If multiple orders match the selection criteria and can be moved, the system then chooses the one with the lowest priority.

As in the previous example, the number of item types for Day 1 is 1, which is smaller than **Target Number of Item Types** [2] (that is, 2), so one item type on Day 2 could be moved to Day 1. For example, the system may choose the non-fixed order for Item 01030 with a quantity of 180 and move it from Day 2 to Day 1.
Then **Total Setup Time**, **Load**, and **Number of Item Types on the Day** are changed accordingly:

Order/ Item	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Fixed order/Item 01010	A qty of 80 (Run time: 2 hours)		A qty of 120 (Run time: 3 hours)		
Fixed order/Item 01020		A qty of 100 (Run time: 2 hours)		A qty of 50 (Run time: 1 hour)	

Order/ Item	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Fixed order/Item 01030			A qty of 60 (Run time: 1 hour)	A qty of 120 (Run time: 2 hours)	
Non-fixed order/Item 01010	A qty of 40 (Run time: 1 hour)	A qty of 120 (Run time: 3 hours)			A qty of 160 (Run time: 4 hours)
Non-fixed order/Item 01020		A qty of 100 (Run time: 2 hours)	A qty of 150 (Run time: 3 hours)		A qty of 100 (Run time: 2 hours)
Non-fixed order/Item 01030	**A qty of 180 (Run time: 3 hours)**		A qty of 120 (Run time: 2 hours)		
Non-fixed order/Item 01040			A qty of 60 (Run time: 1 hour)	A qty of 60 (Run time: 1 hour)	
Total Setup Time (Hour)	3 → 4	6 → 5	7	4	5
Load (Hour)	6 → 10	16 → 12	17	8	11
Number of Item Types on the Day	1 → 2	3 → 2	4	3	2

- When the number of item types for the current day is greater than the bigger **Target Number of Item Types** (that is, **Target Number of Item Types** [1]), the system then tries moving orders from the current day to another day.

  The following rules are applied:

  - The number of item types on To Date is smaller than the bigger **Target Number of Item Types** (that is, **Target Number of Item Types** [1]).

- After the system moves the orders for a certain item to another date, the number of item types on the current date is decreased, and that on To Date is increased.

  This means all the orders for this item on the current date will be moved to To Date and this item is no longer produced on the current date.
- The system does not create new capacity overload for To Date.
- When trying to move orders, the system first checks for orders backwards; if no order is found, the system then checks for orders forwards.
- The system also checks the details defined for the leveling method to determine which orders to be moved:
  - During Item Mix leveling, the system only moves orders rather then dividing them. Therefore, the system does not consider the setting of Allow Order Split.
  - The system considers the setting of Restriction.

    If Restriction is set to Fixed, the order cannot be moved.
    When moving an order to a future date but Restriction is NeedDate, the system cannot move the order to a date that is later than its Need Date.
  - When moving orders, the system cannot move an order out of its specified Swing Days range.
  - If multiple orders match the selection criteria and can be moved, the system then chooses the one with the lowest priority.

In the previous example, the number of item types for Day 3 is 4 now, which is bigger than **Target Number of Item Types** [1] (that is, 3), so one item type on Day 3 can be moved to Day 2. For example, the system may choose the non-fixed order for Item 01040 with a quantity of 60 and move it from Day 3 to Day 2. Then **Total Setup Time**, **Load**, and **Number of Item Types on the Day** are changed accordingly:

Order/ Item	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Fixed order/Item 01010	A qty of 80 (Run time: 2 hours)		A qty of 120 (Run time: 3 hours)		

Order/ Item	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Fixed order/Item 01020		A qty of 100 (Run time: 2 hours)		A qty of 50 (Run time: 1 hour)	
Fixed order/Item 01030			A qty of 60 (Run time: 1 hour)	A qty of 120 (Run time: 2 hours)	
Non-fixed order/Item 01010	A qty of 40 (Run time: 1 hour)	A qty of 120 (Run time: 3 hours)			A qty of 160 (Run time: 4 hours)
Non-fixed order/Item 01020		A qty of 100 (Run time: 2 hours)	A qty of 150 (Run time: 3 hours)		A qty of 100 (Run time: 2 hours)
Non-fixed order/Item 01030	**A qty of 180 (Run time: 3 hours)**		A qty of 120 (Run time: 2 hours)		
Non-fixed order/Item 01040		*A qty of 60 (Run time: 1 hour)*		A qty of 60 (Run time: 1 hour)	
Total Setup Time (Hour)	4	5 → 6	7 → 6	4	5
Load (Hour)	10	12 → 14	17 → 15	8	11
Number of Item Types on the Day	2	2 → 3	4 → 3	3	2

d. The system applies the logic illustrated above to arrange orders on the following days in the horizon day by day.

Finite-Item Mix Leveling

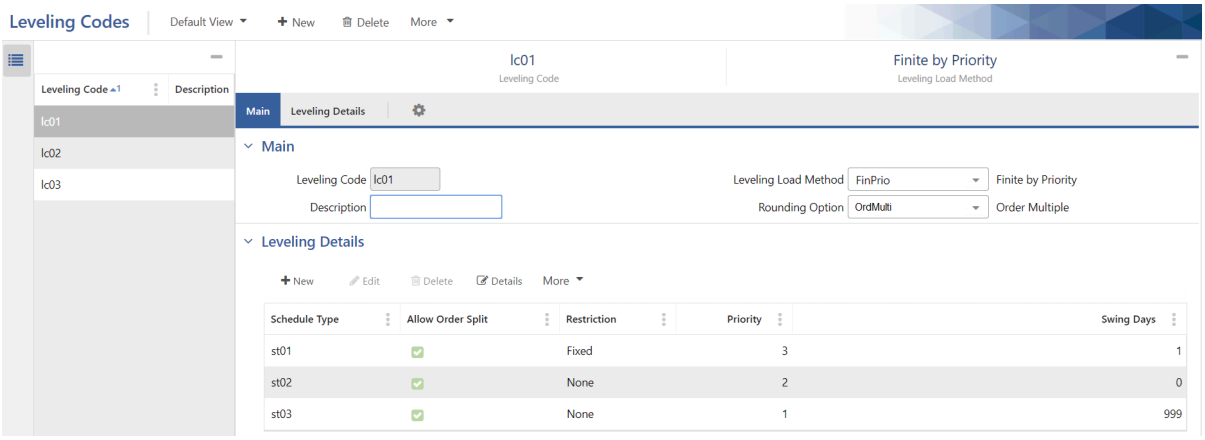
For a production line that is specified to use Finite Capacity By Priority-Item Mix leveling, the system performs Finite Capacity by Priority leveling and then Item Mix leveling on this line.

For details about the two leveling methods, refer to Finite Capacity By Priority Leveling and Item Mix Leveling.

Executing Production Line Leveling

Defining Leveling Codes

Use **Leveling Codes** to manage the leveling code and schedule type, as needed.



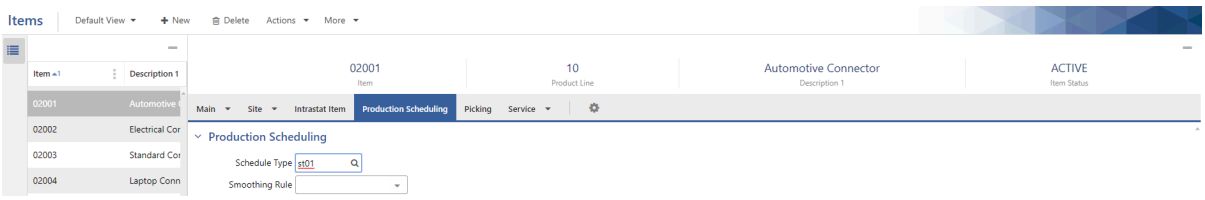
In this example, create a leveling code named lc01 with three schedule types: st01, st02, and st03. On the Leveling Details panel, you can configure Allow Order Split, Restriction, Priority, and Swing Days differently for each schedule type.

Defining Items

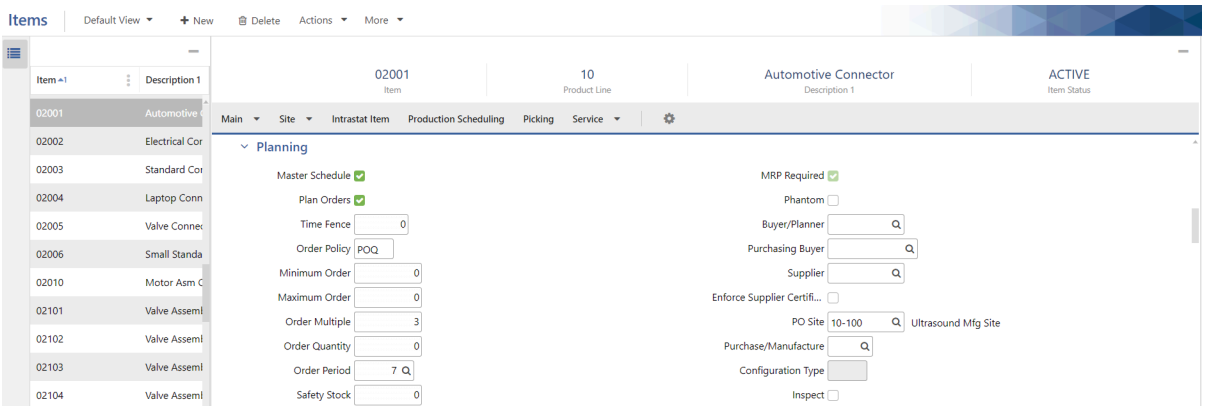
You can create required items in **Items**. There are several key parameters for Production Scheduling Automation:

- Order Multiple
- Schedule Type
- Smoothing Rule

Set Schedule Type and Order Multiple.



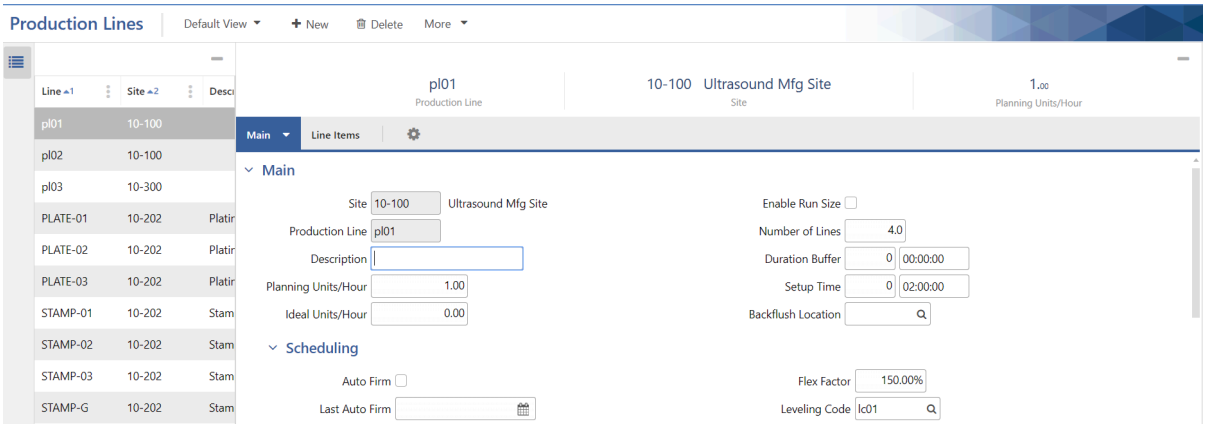
Note Smoothing Rule is vital to production order smoothing. If you set Smoothing Rule to Average, the Period field is displayed and a value is required.



In this example, create three items named 02001, 02002, and 02003 with Schedule Type set to st01, st02, and st03, respectively. Set Order Multiple to 3 for all of them.

Setting Flex Factor and Leveling Code for Production Lines

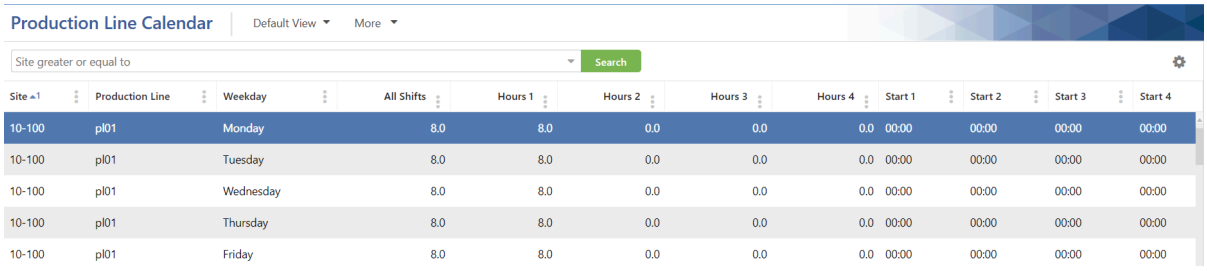
Then, you need to set Flex Factor and Leveling Code for a production line in **Production Lines.**



In this example, for production line pl01 at site 10-100, set Flex Factor to 150% and Leveling Code to lc01.

Setting Production Line Calendars

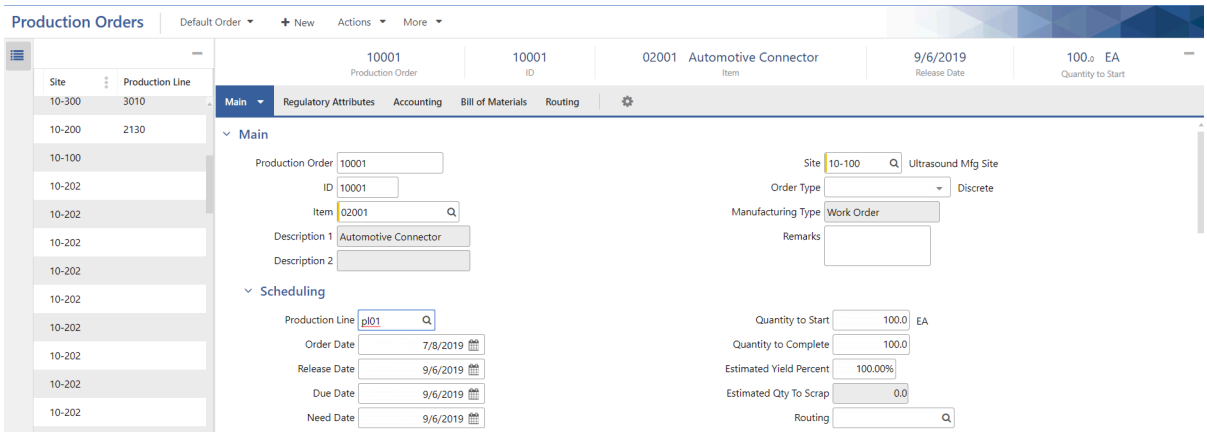
Check the working day settings in **Production Line Calendar**.



In this example, for production line pl01 at site 10-100, the working days range from Monday to Friday, and there are eight working hours per day.

Creating Production Orders

Create production orders for manufacturing the required items in **Production Orders**.



In this example, create production orders 10001, 10002, and 10003 with different settings to produce items 02001, 02002, and 02003:

- Order 10001: Status = F, Auto Schedule = Yes, Due Date = 9/6/2019, Qty To Start = 100, Restriction = Fixed, Allow Order Split = Yes
- Order 10002: Status = F, Auto Schedule = Yes, Due Date = 9/8/2019, Qty To Start = 50, Restriction = None, Allow Order Split = Yes
- Order 10003: Status = F, Auto Schedule = Yes, Due Date = 9/4/2019, Qty To Start = 60, Restriction = None, Allow Order Split = Yes

Note Restriction and Allow Order Split depend on the schedule type of the item, which can be set using **Production Scheduling Automation Setup**. If the schedule type is not defined or not found in **Leveling Codes**, the settings in **Planning Control** take effect.

Specifying Time Horizon

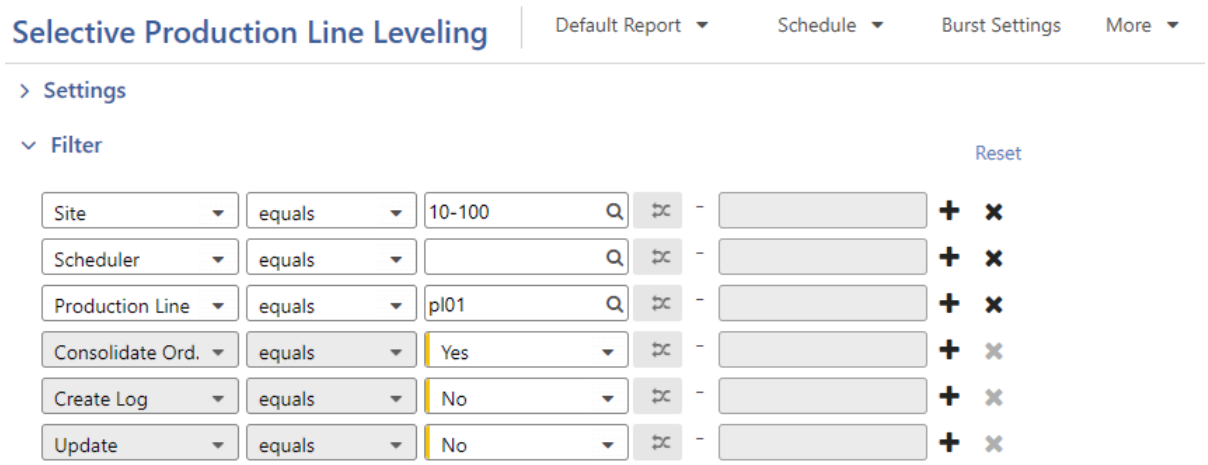
The Production Scheduling Automation panel in **Planning Control** provides access for you to set defaults and exceptions for controlling parameters relevant to Production Scheduling Automation calculations.

The setup in this panel is for all sites in the domain. You can also define specific leveling settings for a site in the Site Leveling Exceptions sub-panel.

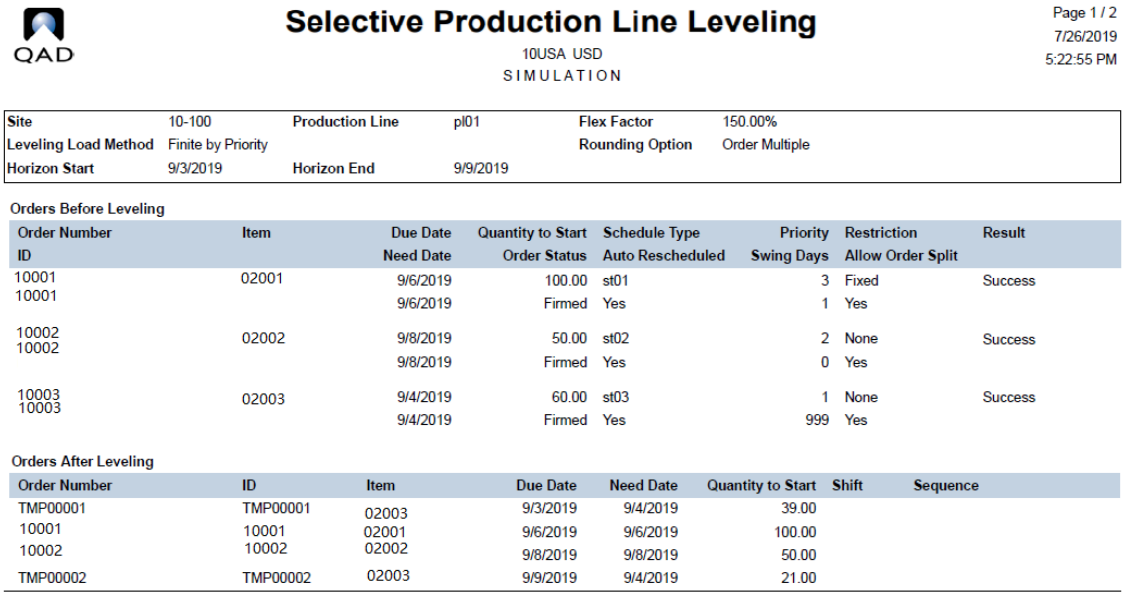
For example, set the horizon to start from September 2, 2019 to September 8, 2019.

Executing Selective Production Line Leveling

Set required filter criteria in **Selective Production Line Leveling**.



In this example, set Site to 10-100, and Production Line to pl01. Click Run.



QAD

Selective Production Line Leveling

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SIMULATION

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Site	10-100	**Production Line**	pl01	**Flex Factor**	150.00%
Leveling Load Method	Finite by Priority			**Rounding Option**	Order Multiple
Horizon Start	9/3/2019	**Horizon End**	9/9/2019		

Orders Before Leveling

Order Number / ID	Item	Due Date / Need Date	Quantity to Start / Order Status	Schedule Type / Auto Rescheduled	Priority / Swing Days	Restriction / Allow Order Split	Result
10001	02001	9/6/2019	100.00	st01	3	Fixed	Success
10001		9/6/2019	Firmed	Yes	1	Yes	
10002	02002	9/8/2019	50.00	st02	2	None	Success
10002		9/8/2019	Firmed	Yes	0	Yes	
10003	02003	9/4/2019	60.00	st03	1	None	Success
10003		9/4/2019	Firmed	Yes	999	Yes	

Orders After Leveling

Order Number	ID	Item	Due Date	Need Date	Quantity to Start	Shift	Sequence
TMP00001	TMP00001	02003	9/3/2019	9/4/2019	39.00		
10001	10001	02001	9/6/2019	9/6/2019	100.00		
10002	10002	02002	9/8/2019	9/8/2019	50.00		
TMP00002	TMP00002	02003	9/9/2019	9/4/2019	21.00		

A report is generated for you to view the leveling results.

Since Order 10001 has a Restriction setting of Fixed, this order cannot be moved and remains on the original due date.

Order 10002 remains on the original due date too as there is sufficient capacity on that date.

Order 10003 supports order division, and the system divides it into two orders on 9/3/2019 and 9/9/2019, based on the production line capacity.

If you have set Create Log to Yes, the logs generated during line leveling are displayed at the end of the report.

If you have set Update to Yes, the new orders are committed and granted actual order numbers and IDs.

Production Scheduling Automation Setup

This screen consists of the data setup views related to the **Production Scheduling Automation** process, including:

- **Customer Schedule Type Assignment**
- **Item Schedule Type & Smoothing Rule**
- **Order Rule Overrides**
- **Smoothing Rule Matrix**
- **Leveling Codes**
- **Production Line Leveling Code Assignment**

Each of the preceding hybrid views is listed as a panel on the setup screen. You can select New, Edit, or Delete on a panel to directly maintain the data. You can also select the Details button to launch the specific hybrid view for .

Customer Schedule Type Assignments

Schedule types are defined in **Generalized Codes**.

The **Customer Schedule Type Assignments** hybrid view allows you to view and manage the relationships between customers and schedule types as well as lets you drill down into related data.

You can select New to create more customer schedule type records, or select an existing record and click Edit or Delete to modify or remove it.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the customer schedule type record you are working on, including Customer and Schedule Type. These fields are read-only and stay in view even when you scroll down the page.

Main

Customer

Enter a valid customer code.

You can click the lookup to open the Customers view and select an existing customer. You can also click New in Customers to create a new customer.

After you enter a customer code, the system displays the customer name as well as the address information associated with the customer.

Note This field is mandatory. You cannot leave it blank.

Schedule Type

Enter a valid schedule type.

You can select the lookup to open the Code Master view and select an existing schedule type. You can also select New in Code Master to create a new schedule type.

Note This field is mandatory. You cannot leave it blank.

Item Schedule Type & Smoothing Rule

You can select an existing record in the grid, and click Edit to change the schedule type and smoothing rule. You can also select Details to launch the **Item Schedule Type & Smoothing Rule** hybrid view for further .

Note Alternatively, you can set the schedule type and smoothing rule for an item on the Production Scheduling panel of **Items**. You are not allowed to add or remove a record in **Item Schedule Type & Smoothing Rule**. To add or remove such a record, go to the Production Scheduling panel of **Items**.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the record you are working on, including Item, Description, Schedule Type, and Smoothing Rule. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists the schedule type and smoothing rule of a specific item.

Item

A code that identifies an item.

Item codes uniquely identify items or products. Items can be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Description 1

Primary description for the item.

Description 2

Extra or supplementary information for the item.

Schedule Type

Specify a schedule type for the item.

Schedule types are defined in **Generalized Codes**. This field is used to assign priorities to different resources such as Export, OEM, Market, and so on.

You can select one from the existing types, or select New to customize a type.

Smoothing Rule

Specify the smoothing rule for the item.

Smoothing rules are used in **Production Scheduling Automation** calculations for the system to determine how to level supply orders for each item.

There are three types of order smoothing:

- Average
- Forward
- Backward

Once the smoothing rule is determined for production orders and auto-scheduling is allowed, the system can smooth those orders.

The Period field is displayed when you set Smoothing Rule to Average.

Note When you set Smoothing Rule to None, the system does not perform production order smoothing.

Period

Specify the period for average smoothing. The time unit could be days, weeks, or months.

This field is displayed only when Smoothing Rule is set to Average, and cannot be left blank.

Item Site Schedule & Smoothing Rule

The Item Site Schedule Type & Smoothing Rule panel allows you to modify the schedule type and smoothing rule for an item at a specific site.

After you define different schedule types and smoothing rules for an item at specific sites on the Site Planning Exceptions sub-panel of **Items**, you can view and manage the settings on the Item Site Schedule Type & Smoothing Rule panel.

You can select an existing record and select Edit to modify the schedule type, smoothing rule, and period for the item.

You can also select Details to launch the Item Site Schedule Type & Smoothing Rule hybrid view to further maintain schedule types and smoothing rules.

Note You are not allowed to add or remove a site-specific item record on the Item Site Schedule Type & Smoothing Rule panel. To add or remove such a record, go to the Site Planning Exceptions sub-panel of **Items**.

Order Rule Overrides

You can click New to create a record. You can select an existing record in the grid, and select Edit to change the schedule type and smoothing rule or select Delete to remove the record. You can also select Details to launch the **Order Rule Overrides** hybrid view for further .

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the order you are working on, including Order, Line, Schedule Type, and Smoothing Rule. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists the following fields:

Demand Type

Select one of the following options:

- Sales Order
- RMA: Return Material Authorization
- Material Order
- Customer Scheduled Order

When Demand Type is set to Sales Order, Material Order, RMA, or Customer Scheduled Order, the Order and Line fields are mandatory and must be set; the Site and Ship-To fields are view-only and display the values defined on the specified order.

Order

A code uniquely identifying an order.

Line

A line number identifying a specific order line.

Site

The site where the items are shipped from.

Ship-To

The address code identifying where the items on the order should be delivered to.

Item

The item defined on the order. This field is read-only.

Item codes uniquely identify items or products. Items can be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Due Date

The date when the order is due to be shipped. This field is read-only.

Quantity Ordered

The item quantity to order on this line. This field is read-only.

Schedule Type

Specify a schedule type for the order.

Schedule types are defined in **Generalized Codes**. This field is used to assign priorities to different resources such as Export, OEM, Market, and so on.

You can select one from the existing types, or click New to customize a type.

Note If you do not want to specify the schedule type for the order, you can leave Schedule Type blank here.

Smoothing Rule

Specify the smoothing rule for the order.

Smoothing rules are used in **Production Scheduling Automation** calculations for the system to determine how to level supply orders for each item.

There are three types of order smoothing:

- Average
- Forward
- Backward

Once the smoothing rule is determined for production orders and auto-scheduling is allowed, the system can smooth those orders.

The Period field is displayed when you set Smoothing Rule to Average.

Note When you set Smoothing Rule to None, the system does not perform production order smoothing.

Note If you do not want to specify the smoothing rule for the order, you can leave Smoothing Rule blank here. Then the system searches for the rule according to the schedule type.

Period

Specify the period for average smoothing. The time unit could be days, weeks, or months.

This field is displayed only when Smoothing Rule is set to Average, and cannot be left blank.

Smoothing Rule Matrix

The smoothing rule is used in **Production Scheduling Automation** calculations to determine how the system levels supply orders for each item. Smoothing rules include forward smoothing, backward smoothing, and average smoothing.

You can specify smoothing rules in **Items** or **Smoothing Rule Matrix**. Generally, you can create records with different combinations of smoothing rule, schedule type, demand type, and smoothing key in **Smoothing Rule Matrix**. You can also define the smoothing rule for a specific sales order (SO) in **Order Rule Overrides**. This way the system first searches for a proper record from **Order Rule Overrides**; if no record is available in **Order Rule Overrides**, the system then searches for a record from **Smoothing Rule Matrix**. If no order smoothing rule is found from the demand order or the matrix, the system uses the order smoothing rule defined for the item in **Items**. If the item has dependent demand, the system uses the original demand, such as SO, of its higher-level parent item and its own item or smoothing key to determine the smoothing rule.

Note Scheduling types and smoothing rules are assigned to orders during master production supply planning. If you run order smoothing independently, without performing master production supply planning, the system uses the scheduling type and smoothing rule assigned to the items on orders that are not created during master production supply planning, for example, the manually created or MRP-generated orders.

The **Smoothing Rule Matrix** hybrid view allows you to view and manage smoothing rule records as well as lets you drill down into related data.

You can click New to create more matrix records, or select an existing record and click Edit or Delete to modify or remove it.

When you are creating a matrix record, all fields except Smoothing Key are editable. When you are modifying an existing record, only the Smoothing Rule field is editable (If Smoothing Rule is Average, the Period field is also editable).

You can also click Details to launch the **Smoothing Rule Matrix** hybrid view for further .

Summary

The Summary panel is located between the menu bar and the navigation bar, displaying key data like Schedule Type and Smoothing Rule. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists the following fields:

Smoothing Key

Display the smoothing key you defined on the Production Scheduling Automation panel in **Planning Control**.

The value could be any of the following:

- Corp Commodity
- Design Group
- Item Group
- Item Status
- Item Type
- Product Line
- Purchase/Manufacture Code
- Replenishment Method
- Service Category
- Service Group

This field is read-only. To use a new smoothing key, you need to remove all matrix records created for the original smoothing key from this view, and then specify the new smoothing key on the Production Scheduling Automation panel in **Planning Control**.

Note The value of this field determines the name of the Value of Smoothing Key field.

Schedule Type

Enter a valid schedule type.

You can click the lookup to open the Code Master view and select an existing schedule type. You can also click New in Code Master to create a new schedule type.

Note You can leave this field blank to define a general record.

Smoothing Rule

Select one of the following options:

- Average
- Backward

- Forward
- None

If you set Smoothing Rule to Average, the Period field is displayed and a value is required.

Period

Specify the period for average smoothing. The time unit could be days, weeks, or months.

This field is displayed only when Smoothing Rule is set to Average, and cannot be left blank.

Demand Type

Select one of the following options:

- All: All Demands
- CS: Required Ship Schedule
- FC: Forecast
- IR: Intersite Demand
- MO: Material Order
- RMA: Return Material Authorization
- SB: Seasonal Build
- SO: Sales Order

For example, if Smoothing Key is Replenishment Method, you can create a record with Schedule Type set to Export, Demand Type set to SO, and Replenishment Method set to Kanban. Then, when the demand of a production order is Sales Order, Schedule Type is Export, and the replenishment method defined for the item is Kanban, the system uses the smoothing rule specified in this record.

You can also create a record with Schedule Type and Demand Type specified but Replenishment Method left blank. Then if no other specific record is available in the matrix, the system uses the smoothing rule specified in this record once the schedule type and demand type of an order match the values in this record, regardless of what replenishment method is defined for the item in the order.

Likewise, you can create a record with a blank Schedule Type or Demand Type set to All.

The system searches for a matrix record for an order in the following sequence by default:

1. Record with matched Schedule Type, Demand Type, and Replenishment Method
2. Record with blank Replenishment Method, matched Schedule Type, and matched Demand Type

3. Record with Demand Type of All, matched Replenishment Method, and matched Replenishment Method
4. Record with blank Schedule Type, matched Demand Type, and matched Replenishment Method
5. Record with blank Replenishment Method, Demand Type of All, and matched Schedule Type
6. Record with blank Replenishment Method, blank Schedule Type, and matched Demand Type
7. Record with Demand Type of All, blank Schedule Type, and matched Replenishment Method
8. Record with blank Schedule Type, blank Replenishment Method, and Demand Type of All

The preceding records are listed in descending order according to priorities during the search. When the system searches for records from 1 to 8, once a record with a higher priority is identified as existing, the system uses this record.

Value of Smoothing Key

The name of this field depends on the value of Smoothing Key. For example, if Smoothing Key is Replenishment Method, the name of this field is Replenishment Method; if Smoothing Key is Item Status, the field name is Item Status.

You can enter a value or click the lookup to select an existing value. You can also click New in the launched view to create a new value.

Note You can leave this field blank to define a general record.

Leveling Codes

Leveling Codes allows you to view and manage available leveling codes as well as lets you drill down into related data.

You can select New to create more leveling codes, or select an existing code in the grid and click Edit or Delete to modify or remove it. You can also select Details to launch the **Leveling Codes** hybrid view for further .

Note When you are creating a leveling code in **Leveling Codes**, the system defaults values from the corresponding parameters in Planning Control. You can then modify them as needed.

After creating leveling codes in this view, you can set the Leveling Code field in the Production Line Leveling Code Assignment grid or the **Production Lines** view to associate a leveling code to a production line. Then, the system performs leveling on this line according to the selected leveling load method and the maintained parameters.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the leveling code you are working on, including Leveling Code and Leveling Load Method. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists the details of a specific leveling code.

Leveling Code

Enter a name to identify the leveling code.

After creating a leveling code, you can associate it to a production line.

Description

Enter some descriptions for the leveling code.

Leveling Load Method

Specify the production line leveling method.

Production line leveling methods include EPEI, Finite by Priority, Item Mix, Finite by Priority-Item Mix, and Finite Forward.

The following options are available in the drop-down list:

- EPEI: Every Part Every Interval
- FinFwd: Finite Forward
- FinMix: Finite Capacity By Priority-Item Mix
- FinPrio: Finite Capacity by Priority
- ItemMix: Item Mix

When you select FinFwd, FinMix, FinPrio, or ItemMix, the Leveling Details panel is displayed below; when you select EPEI, the EPEI Leveling panel is displayed.

Rounding Option

Choose from:

- One: Round up by one
- OrdMulti: Order Multiple

The setting of Rounding Option affects order division. This field applies only to production line leveling in **Production Scheduling Automation**. For the other three procedures in **Production Scheduling Automation**, the system uses the order multiple set

in item or item-site planning data for non-Kanban items or uses the Kanban Quantity for Kanban items, to calculate order quantities.

If Rounding Option is set to One, the minimum order quantity that can be divided is 1 (one).

If Rounding Option is Order Multiple, order multiple is taken into consideration during order division. Order multiple ensures easy management of quantities.

Note The Order Multiple value entered for an item in **Items** is used as the default for this item at all sites. You can also set up site-specific values on the Site Planning Exceptions sub-panel of **Items**.

Leveling Details

The Leveling Details panel is available when Leveling Load Method is set to FinFwd (Finite Forward), FinPrio (Finite Capacity By Priority), ItemMix (Item Mix), or FinMix (Finite Capacity By Priority-Item Mix). This panel enables you to set leveling parameters for different schedule types.

You can select New to create a record for defining leveling parameters for a schedule type, including Allow Order Split, Restriction, Priority, and Swing Days. You can select Edit or Delete to maintain or remove such a record.

You can also select Details to launch the Leveling Details hybrid view to further maintain schedule types.

Schedule Type

Select an existing type from the look-up browse, namely, Code Master. You can also select New in Code Master to customize a new type.

This field is used to assign priorities by different resources, such as Export, OEM, Market, and so on.

Allow Order Split

Specify whether an order can be divided during line leveling. The setting of this field defaults from the Production Scheduling Automation panel in **Planning Control**.

You can select Allow Order Split to allow for order division or clear it to prohibit order division.

Restriction

Determine whether an order can be moved during leveling.

Choose one of the following options:

- Fixed

  An order with a restriction of Fixed cannot be moved.

- NeedDate

  An order with a restriction of NeedDate can be moved to a date earlier than its Need Date, but cannot be moved to a later date.

The system re-schedules the order based on the capacity on the dates earlier than Need Date.

- None

  An order with a restriction of None can be moved to a date earlier or later than its Due Date. The system first re-schedules the order backward if the capacity on the Due Date is not enough, and then forward. The backward and forward days are determined by the value of Swing Days.

Priority

Enter an integer to specify the priority for the schedule type. The value ranges from 0 to 99.

The setting of this field defaults from the Production Scheduling Automation panel in **Planning Control**.

The system reschedules orders with a lower priority first.

Swing Days

Specify whether the order can be moved forward or backward when there is insufficient production capacity. This field also determines the time bucket within which the order can be moved.

The setting of this field defaults from the Production Scheduling Automation panel in **Planning Control**.

For example, if Swing Days is set to 2, the order can be moved 1 or 2 days forward or backward during leveling.

If Swing Days is set to 0, the order cannot be moved forward or backward. This means the order is treated as a fixed order.

EPEI Leveling

The EPEI Leveling panel is available when Leveling Load Method is set to EPEI. This panel enables you to set parameters for EPEI leveling.

Time Bucket

Specify a period of time to determine the length of time buckets. Then the system can calculate the number of EPEI intervals.

For a given production scheduling horizon, there can be multiple EPEI time buckets for one production line, and each EPEI time bucket can be further divided into several EPEI intervals.

The unit of time buckets could be days, weeks, or months. If you set Time Bucket to 0 days, weeks, or months, then the time bucket refers to the whole horizon.

Assume that Time Bucket is set to 1 month, in a scheduling horizon from October 20, 2019 to December 19, 2019, there are three time buckets as follows:

	Start Date	End Date
PSA Horizon	10/20/2019	12/19/2019
Time Bucket 1	10/20/2019	10/31/2019
Time Bucket 2	11/01/2019	11/30/2019
Time Bucket 3	12/01/2019	12/19/2019

When the unit is weeks, the start day for a time bucket is determined by the value of Summary Default on the MRP Control panel of **Planning Control**. For example, if Summary Default is Wednesday and Time

Bucket is set to 2 weeks, in a scheduling horizon from October 20, 2019 to December 19, 2019, there are five time buckets:

	Start Date	End Date
PSA Horizon	10/20/2019	12/19/2019
Time Bucket 1	10/20/2019	10/29/2019
Time Bucket 2	10/30/2019	11/12/2019
Time Bucket 3	11/13/2019	11/26/2019
Time Bucket 4	11/27/2019	12/10/2019
Time Bucket 5	12/11/2019	12/19/2019

Shift Scheduling

Choose Shift or Day from the drop-down list.

If Shift Scheduling is Shift, orders are scheduled by each shift and the shift number is set to the newly generated orders.

If Shift Scheduling is Day, the system summarizes the capacity by all shifts in the day and schedules orders by day. In this case, the Shift field is left blank on the newly created orders.

Update Order Sequence

Determine whether to set the sequence for the orders generated during line leveling.

Scheduling Basis

Set Scheduling Basis to one of the following:

- Takt: Orders are scheduled by takt time.
- Runtime: Orders are scheduled by manufacturing time.

Production Line Leveling Code Assignment

Production Line Leveling Code Assignment displays the production lines that have been associated with leveling codes.

You can select an existing record in the grid and select Edit to change the leveling code for the production line. You can also select Details to launch the **Production Line Leveling Code Assignment** hybrid view for further .

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production line you are working on, including Site, Production Line, and Leveling Code. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel consists of the following fields:

Site

The site where this production line is located.

This field is read-only.

Production Line

The name or code for this production line.

This field is read-only.

Leveling Code

Enter a leveling code to specify the leveling code that you want to associate to the production line.

You can select the lookup to open the Leveling Codes view and select an existing code. You can also select New in Leveling Codes to create a new leveling code for use.

After you set the leveling code, its description and leveling load method are displayed accordingly.

Leveling Load Method

The leveling load method specified for the leveling code.

This field is read-only.

Production Scheduling Automation

You can run one of the following menus to execute a specific procedure in **Production Scheduling Automation**:

- **Selective Master Production Supply Planning**
- **Selective Production Order Smoothing**
- **Selective Production Line Allocation**
- **Selective Production Line Leveling**

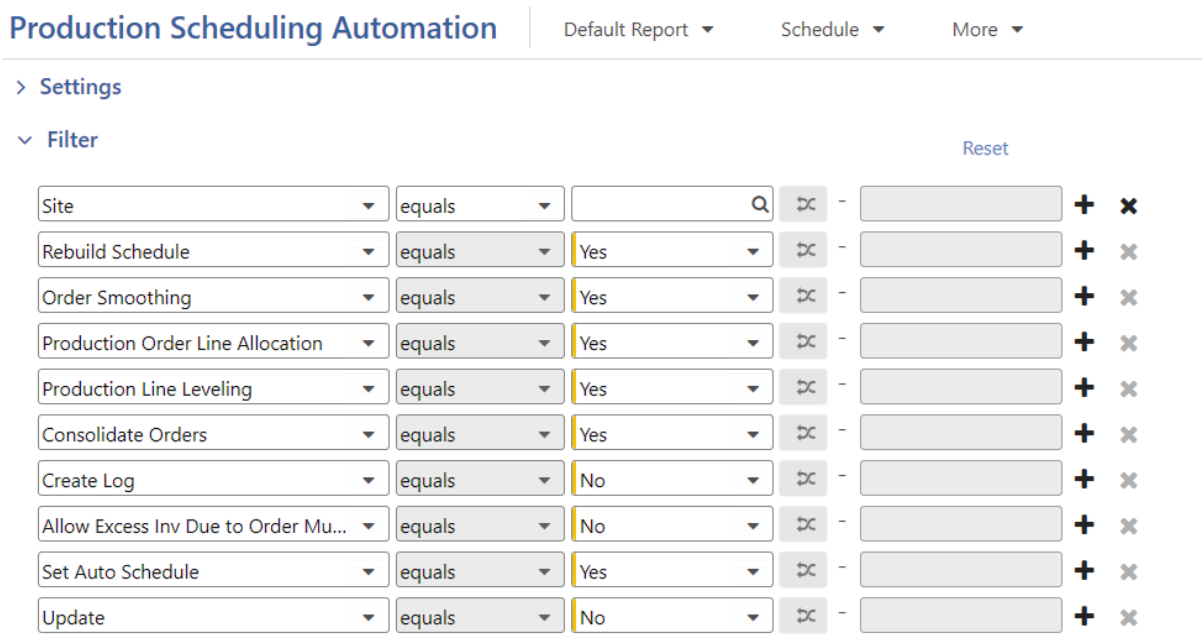
When running a selective menu, you can set filter criteria such as site, item number, scheduler, production line, schedule type, or due date, as needed. Then the system invokes the specific program and performs operations that are restricted to the items, production lines, or others you selected via the program's filter criteria. For example, you can use **Selective Master Production Supply Planning** to plan MPS items separately from other items, or to plan small groups of items by using Schedule Type.

Using **Production Scheduling Automation**, you can make the system execute all or some of the preceding procedures at a time. Then the system provides you with a generic report, showing the scheduling results for the specified site. This simplifies user operations and improves efficiency.

Note You can set File Type to Excel and set Layout to Production Scheduling Automation Excel View in Settings when running **Production Scheduling Automation**. After execution, the system displays an Excel report in a summary layout to show the results. Then you can download the Excel file, which facilitates your further use.

Filter

Set the following filter criteria, as needed. You can determine whether to perform master production supply planning, production order smoothing, production line allocation, or production line leveling. You can also choose whether to consolidate orders, create logs, allow excess inventory when the order multiple is considered, set the Auto Schedule field in the generated orders, or commit the new orders to the onsite database.



Site

Enter a valid site code for conducting **Production Scheduling Automation**.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Rebuild Schedule

Determine whether to perform master production supply planning during the **Production Scheduling Automation** process.

When Yes, only MPS items are processed in the calculations.

When No, the system does not update low-level codes, but processes all items regardless of whether they are MPS items.

Note MPS items refer to the items that meet the following conditions:

- Master Schedule is set to Yes in item-site or item planning data.
- Purchase/Manufacture code is not Family (F), DRP (D), Purchased (P), or Routable (R).
- Phantom is set to No, which indicates the item is not a global phantom item.

Order Smoothing

Determine whether to perform production order smoothing during the **Production Scheduling Automation** process.

Production Order Line Allocation

Determine whether to perform production line allocation during the **Production Scheduling Automation** process.

Note When you run **Production Scheduling Automation** with Production Order Line Allocation set to Yes, the production line allocation function only allocates the non-fixed production orders with the same site, item, and due date together. It does not change the production line for a fixed production order in status A or R or for an order whose Auto Schedule is set to No.

Note If you want to reallocate fixed production orders, run **Selective Production Line Allocation**. This way you can set the Update Fixed Orders field to determine whether to reallocate the fixed orders that are in status E, F, or P and Auto Schedule is set to No even if they have production lines assigned. If the production line is defined in a fixed order with status A or R, the system reserves the predefined production line for this order regardless of the setting of Updated Fixed Orders.

Production Line Leveling

Determine whether to perform production line leveling during the **Production Scheduling Automation** process.

Consolidate Orders

Specify whether to consolidate orders after scheduling.

If you set Consolidate Orders to Yes, the system consolidates the newly created orders by site, line, item, due date, need date, schedule type, manufacturing type, smoothing rule, period type, average period, priority, and production order sequence.

Note When leveling discrete schedule orders, the system consolidates only the discrete schedule orders with the same CUM ID.

Create Log

Specify whether the system creates logs to record the calculation process during scheduling.

If you set Create Log to Yes, the generated logs are displayed at the end of the report.

Note To print logs at the end of the report, you also need to set File Type to Plain Text and set Layout to Production Scheduling Automation Log View on the Settings panel.

Allow Excess Inv Due to Order Multiple

Determine whether the total quantity of new orders can exceed the quantity of the original order.

Set Auto Schedule

Determine the value of the Auto Schedule field in the created production orders.

When Yes, the Auto Schedule field is set to Yes for all production orders created during **Production Scheduling Automation**.

When No, the system sets the Auto Schedule field to No for such production orders.

Update

Specify whether to commit the orders that are generated during scheduling.

If you set Update to No, the new orders get temporary values for Order Number and ID, such as TMP00001.

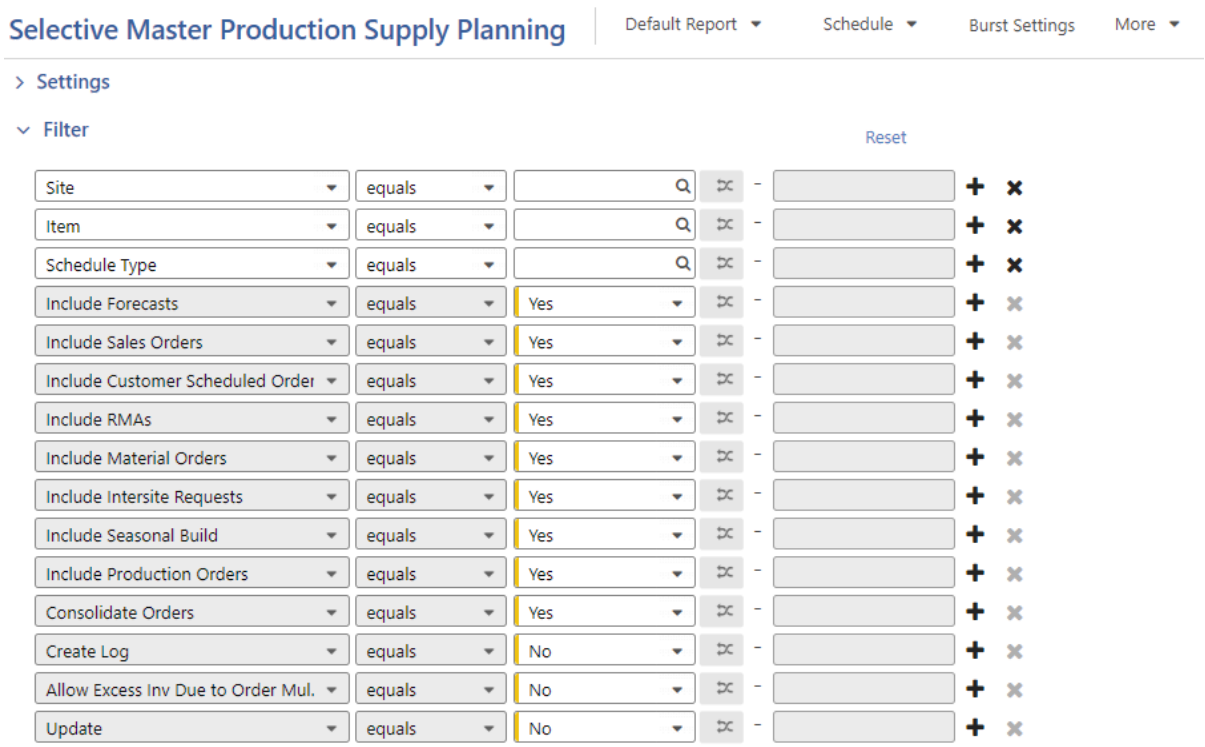
If you set Update to Yes, the new orders are committed and have real order numbers and IDs.

Selective Master Production Supply Planning

After you execute master production supply planning, the system provides you with a report to check the balancing results.

Filter

Set the following filter criteria, as needed. You can set filter criteria for the site, item number, and schedule type. You can choose whether to include certain types of orders like forecasts and sales orders during master production supply planning. You can also determine whether to allow excess inventory when the order multiple is considered, consolidate orders, create logs, or commit the generated orders to the onsite database.



Site

Enter a valid site code for selecting orders for master production supply planning.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Item

Enter a valid item code for selecting orders for master production supply planning.

Schedule Type

Enter a valid schedule type for selecting orders for master production supply planning.

Include Forecasts

Specify whether to include forecasts.

The default is Yes, indicating forecasts are included.

Include Sales Orders

Specify whether to include sales orders.

The default is Yes, indicating sales orders are included.

Include Customer Scheduled Orders

Specify whether to include customer scheduled orders.

The default is Yes, indicating customer scheduled orders are included.

Include RMAs

Specify whether to include Return Material Authorizations (RMAs).

The default is Yes, indicating RMAs are included.

Include Material Orders

Specify whether to include material orders.

The default is Yes, indicating material orders are included.

Include Intersite Requests

Specify whether to include inter-site requests.

The default is Yes, indicating inter-site requests are included.

Include Seasonal Build

Specify whether to include seasonal build.

The default is Yes, indicating seasonal build is included.

Include Production Orders

Specify whether to include production orders.

The default is Yes, indicating production orders are included.

Consolidate Orders

Specify whether to consolidate orders after master production supply planning.

If you set Consolidate Orders to Yes, the system consolidates the newly created orders by site, line, item, due date, need date, schedule type, manufacturing type, smoothing rule, period type, average period, priority, and production order sequence.

Create Log

Specify whether the system creates logs to record the calculation process during master production supply planning. The default is No.

If you set Create Log to Yes, the generated logs are displayed at the end of the report.

Note To print logs at the end of the report, you also need to set File Type to Plain Text and set Layout to Production Scheduling Automation Log View on the Settings panel.

Allow Excess Inv Due to Order Multiple

Determine whether the total quantity of new orders can exceed the quantity of the original order.

The default is No.

Update

Specify whether to commit the orders that are generated during master production supply planning.

If you set Update to No, the new orders get temporary values for Order Number and ID, such as TMP00001.

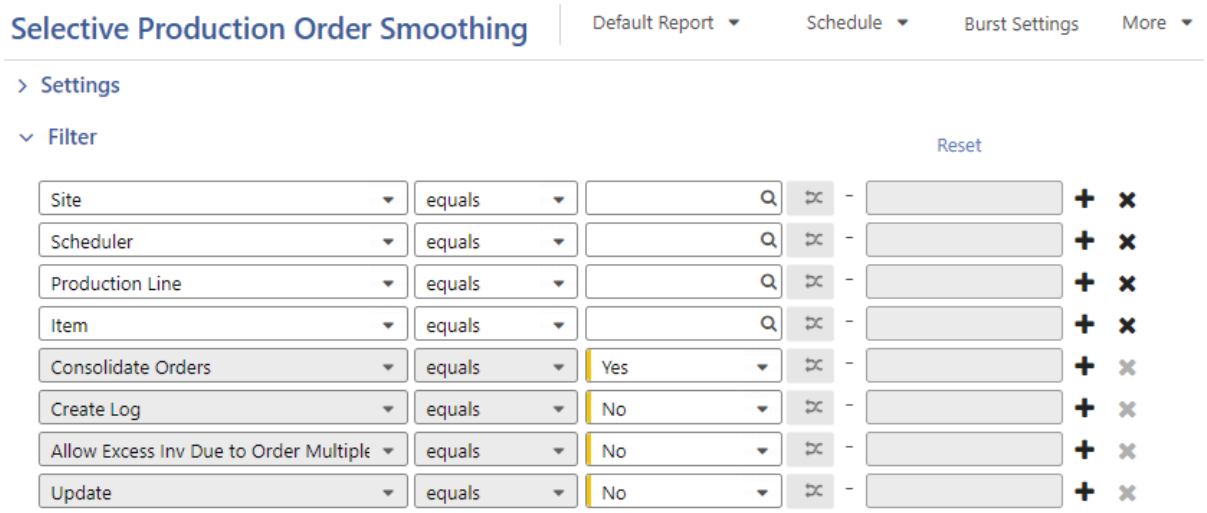
If you set Update to Yes, the new orders are committed and have real order numbers and IDs.

Selective Production Order Smoothing

After you execute production order smoothing, the system provides you with a report to check the smoothing results.

Filter

Set the following filter criteria, as needed. You can set filter criteria for the site, scheduler, production line, and item number. You can also choose whether to consolidate orders, create logs, allow excess inventory when the order multiple is considered, or commit the generated orders to the onsite database.



Site

Enter a valid site code for selecting orders to smooth.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Scheduler

A scheduler is a person in charge of scheduling. Enter a valid user name defined in **Users**.

Production Line

Enter a production line code for selecting orders to smooth.

Item

Enter a valid item code for selecting orders to smooth.

Consolidate Orders

Specify whether to consolidate orders after smoothing.

If you set Consolidate Orders to Yes, the system consolidates the newly created orders by site, line, item, due date, need date, schedule type, manufacturing type, smoothing rule, period type, average period, priority, and production order sequence.

Note When smoothing discrete schedule orders, the system consolidates only the discrete schedule orders with the same CUM ID.

Create Log

Specify whether the system creates logs to record the calculation process during order smoothing.

If you set Create Log to Yes, the generated logs are displayed at the end of the report.

Note To print logs at the end of the report, you also need to set File Type to Plain Text and set Layout to Production Scheduling Automation Log View on the Settings panel.

Allow Excess Inv Due to Order Multiple

Determine whether the total quantity of new orders can exceed the quantity of the original order.

Take forward smoothing as an example. Assume that Qty to Start of the original order is 105, Order Multiple is 10, and there are four working days available during the horizon.

If you set Allow Excess Inv Due to Order Multiple to No, the system first checks the required quantity of the original production order. Since the required quantity is 105, which does not fit the order multiple (10), the system leaves the residual quantity (5) on the due date (Day 1), and then divides the remaining quantity (100) by four, which reaches 25. The system first rounds up the quantity on day 1 to 30 and plans a quantity of 35 on day 1. The system then rounds down the quantity on day 2 to 20. Now the actual CUM quantity is 55, which is equal to the expected CUM quantity for the two days. So the round-down logic applies. The system applies the handling process for the rest two days as well. The system finally generates four orders, with Qty to Start of

the first order (the one for the original due date) set to 35, and that of day 2, day 3, and day 4 set to 20, 30, and 20 respectively.

	Day 1	Day 2	Day 3	Day 4
Demand	105			
Smooth Forward	30	25	25	25
Adjust by Order Multiple	35	20	30	20

If you set Allow Excess Inv Due to Order Multiple to Yes, the system applies the order multiple to the original order and then executes order smoothing. This means that the system firstly rounds Qty to Start of the original order up to 110 and divides it among the four days (that is, 27.5 per day). The system first rounds up the quantity on day 1 from 27.5 to 30. Then the system tries rounding down the quantity of day 2 to 20. Now the CUM quantity is 50, which is smaller than the expected CUM quantity on the two days (55). Therefore the round-down logic does not apply, and the system rounds up the quantity of day 2 to 30. The system calculates the quantities on the other two days by following the same logic, and finally adjusts the Qty to Start of day 1, day 2, day 3, and day 4 to 30, 30, 30, and 20 respectively to meet the order multiple requirement.

	Day 1	Day 2	Day 3	Day 4
Demand	105			
Apply Order Multiple for Original Order	110			
Smooth Forward	27.5	27.5	27.5	27.5
Adjust by Order Multiple	30	30	30	20

Update

Specify whether to commit the orders that are generated during order smoothing.

If you set Update to No, the new orders get temporary values for Order Number and ID, such as TMP00001.

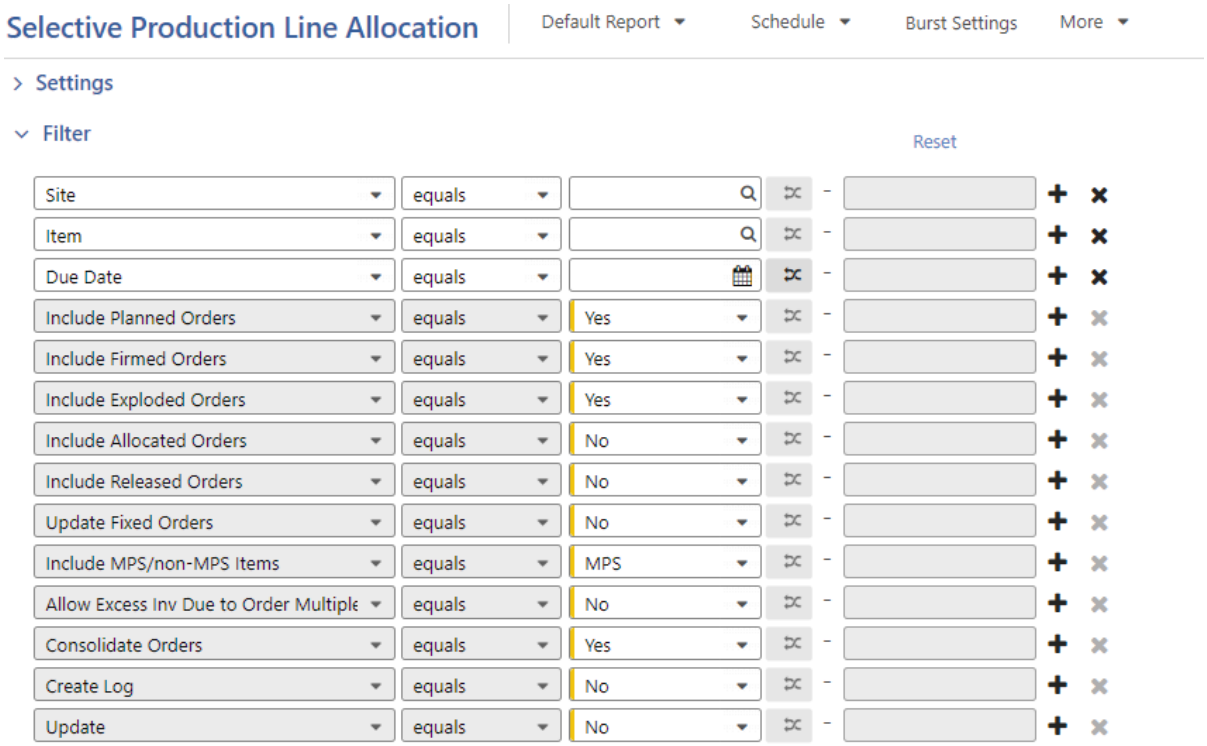
If you set Update to Yes, the new orders are committed and have real order numbers and IDs.

Selective Production Line Allocation

After you execute production line allocation, the system provides you with a report to check the allocation results.

Filter

Set the following filter criteria, as needed. You can set filter criteria for the site, item number, and due date. You can choose whether to include certain types of orders like planned orders and firmed orders during allocation. You can also determine whether to allow excess inventory when the order multiple is considered, consolidate orders, create logs, or commit the generated orders to the onsite database.



Site

Enter a valid site code for selecting production orders for production line allocation.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Item

Enter a valid item code for selecting production orders for production line allocation.

Due Date

Select the calendar icon to select a range of production orders by due date.

Include Planned Orders

Specify whether to include planned orders.

The default is Yes, indicating planned orders are included.

Include Firmed Orders

Specify whether to include firmed orders.

The default is Yes, indicating firmed orders are included.

Include Exploded Orders

Specify whether to include exploded orders.

The default is Yes, indicating exploded orders are included.

Include Allocated Orders

Specify whether to include allocated orders.

The default is No, indicating allocated orders are excluded.

Include Released Orders

Specify whether to include released orders.

The default is No, indicating released orders are excluded.

Update Fixed Orders

Set this field to Yes or No to determine whether to reallocate fixed orders to production lines.

- If no production line is defined in a fixed order and Updated Fixed Orders is set to Yes, the system reallocates the production line for the order even through the order status is A or R.
- If the production line is defined in a fixed order with status A or R, the system reserves the predefined production line for this order regardless of the setting of Updated Fixed Orders.
- If Auto Schedule is set to No for a fixed order with status E, F, or P:
  - When Updated Fixed Orders is Yes: The system reallocates the production line for the order. The system also checks the order quantity to decide which order to be allocated first together with non-fixed orders. Among such orders and all non-fixed orders, the one with the largest order quantity is allocated first.
  - When Updated Fixed Orders is No: The system does not reallocate the production line for the order. The system

reserves the original production line and directly allocates the order to this line.

- After reallocating production lines for fixed orders, the system re-generates allocation records for the orders according to their new backflush locations.

  Note The system removes all manual allocation records of exploded orders when reallocating the production line. So if you want to reserve the manual allocation records of exploded orders, you are advised to set both Auto Schedule and Update Fixed Orders to No.

- For orders with a picklist, the system reserves their preset production lines and does not reallocate them to new production lines.
- When reallocating orders to production lines, the system reserves Qty Issued and Actual Qty Completed on the original orders.

Include MPS/non-MPS Items

Set this field to MPS, non-MPS, or Both to indicate if production orders for Master Production Schedule (MPS) items, non-MPS items, or both types of items are considered by this function.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

The default is MPS.

Allow Excess Inv Due to Order Multiple

Determine whether the total quantity of new orders can exceed the quantity of the original order.

The default is No.

Consolidate Orders

Specify whether to consolidate orders after production line allocation. The default is Yes.

If you set Consolidate Orders to Yes, the system consolidates the newly created orders by site, line, item, due date, need date, schedule type, manufacturing type, smoothing rule, period type, average period, priority, and production order sequence.

Note When allocating discrete schedule orders, the system consolidates only the discrete schedule orders with the same CUM ID.

Create Log

Specify whether the system creates logs to record the calculation process during production line allocation. The default is No.

If you set Create Log to Yes, the generated logs are displayed at the end of the report.

Note To print logs at the end of the report, you also need to set File Type to Plain Text and set Layout to Production Scheduling Automation Log View on the Settings panel.

Update

Specify whether to commit the orders that are generated during production line allocation. The default is No.

If you set Update to No, the new orders get temporary values for Order Number and ID, such as TMP00001.

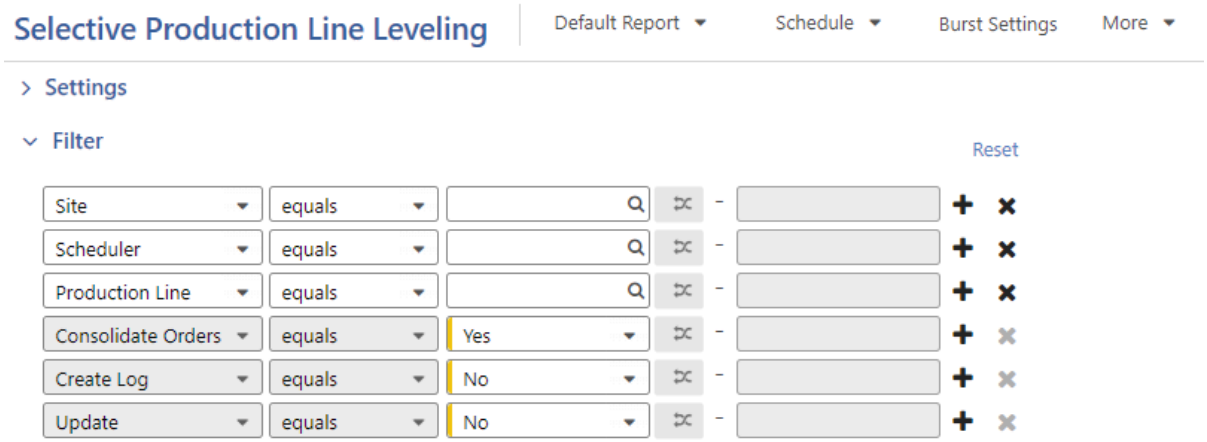
If you set Update to Yes, the new orders are committed and have real order numbers and IDs.

Selective Production Line Leveling

After you execute production line leveling, the system provides you with a report to check the leveling results.

Filter

Set the following filter criteria, as needed. You can set filter criteria for the site, scheduler, and production line. You can also choose whether to consolidate orders, create logs, or to commit the generated orders to the onsite database.



Site

Enter a valid site code for selecting production lines to level.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Scheduler

A scheduler is a person in charge of scheduling. Enter a valid user name defined in **Users**.

Production Line

Enter a production line code for selecting a production line to level.

Consolidate Orders

Specify whether to consolidate orders after leveling.

If you set Consolidate Orders to Yes, the system consolidates the newly created orders by site, line, item, due date, need date, schedule type, manufacturing type, smoothing rule, period type, average period, priority, and production order sequence.

Note When leveling discrete schedule orders, the system consolidates only the discrete schedule orders with the same CUM ID.

Create Log

Specify whether the system creates logs to record the calculation process during production line leveling.

If you set Create Log to Yes, the generated logs are displayed at the end of the report.

Note To print logs at the end of the report, you also need to set File Type to Plain Text and set Layout to Production Scheduling Automation Log View on the Settings panel.

Update

Specify whether to commit the orders that are generated during leveling.

If you set Update to No, the new orders get temporary values for Order Number and ID, such as TMP00001.

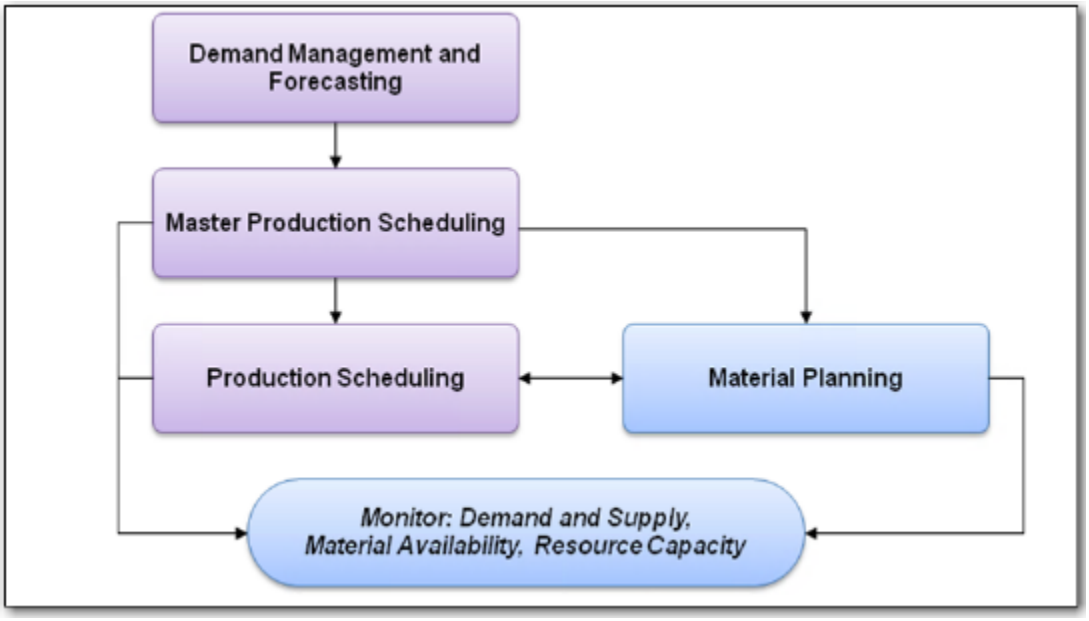
If you set Update to Yes, the new orders are committed and have real order numbers and IDs.

Materials Planning Introduction

Materials Planning is the process of planning the supply of materials to satisfy demand for finished goods and items at all levels—from end items, to intermediate products and subassemblies, to raw materials and components. Its primary objective is to determine the timing and quantities to be supplied by production and purchase orders, scheduled to assure the availability of inventory over time, while minimizing inventory on-hand.

Materials Planning, together with demand management, forecasting, master production scheduling, production scheduling, and capacity planning, is essential to manufacturing resource planning.

Materials Planning includes both material requirements planning (MRP) and distributed requirements planning (DRP). The following topics discuss MRP; for DRP topics, see DRP Planning on page 3356.



To evaluate the demand and supply of items, determine material requirements, and calculate a material plan, MRP:

1. Uses the master schedule and product structure information to calculate demand for component items.
2. Determines the demand, supply, and projected inventory quantity for items.
3. Reschedules existing supply orders.
4. Creates new planned supply orders to either satisfy demand or to replenish inventory. These planned orders become the master schedule for lower level components, and the process repeats from step 1 above.

To calculate the material plan, MRP can be initiated from any one of three functions, all of which apply shared planning logic and processing:

- Net change material plan
- Regenerative material plan
- Selective material plan

MRP processes items, level-by-level, beginning at the top level with finished goods first, creating time-phased materials plans, determining the gross requirements and projected quantity on hand for each item, before proceeding to process additional items.

It creates planned orders to satisfy demand or replenish inventory, displays action messages for scheduling orders, and explodes demand for lower-level component items, then it proceeds by planning the remaining items. It generates planned production orders for manufactured items and planned purchase orders for purchased items.

MRP generates planned orders for an item when the item-site or item planning data parameter for Order Policy is set to a non-blank value and the parameter for Plan Orders set to Yes. Material Planning generates planned production orders for manufactured items, for items manufactured on production lines, planned purchase orders for purchased items, and planned inter-site requests, depending on the Pur/Mfg code defined for the item.

DRP Planning

Distribution Requirements Planning (DRP) is a key planning process designed for companies with multiple sites having interdependencies of supply and demand. You use DRP to plan supply to meet demand for multiple sites within a single domain, and to distribute demand to other sites within the current domain, in other domains within the same database, or in other connected databases.

DRP and Material Requirements Planning (MRP) are complementary functions.

- Use MRP to plan supply to meet demand within a single site.
- Use DRP to plan supply to meet demand for multiple sites within a single domain, and to distribute demand to other sites within the current domain, in other domains within the same database, or in other connected databases

DRP and MRP calculations use the same algorithms to time-phase supply and demand, net requirements, plan supply, and report exception conditions. You can run DRP and MRP in two ways:

- As separate steps, using MRP functions to execute MRP and Net Change Distribution Plan, Regenerative Distribution Plan, or Selective Distribution Plan to execute DRP.

- In coordination, using either MRP or DRP functions. This is especially useful when you have distributed items at multiple levels of product structures for a site.

DRP is typically run regularly, often daily, whether alone or in coordination with MRP. You should run DRP-related reports and inquiries such as DRP Action Message Review/Update immediately after running DRP.

Note Do not run DRP when activities that may affect source networks, product structures, inventory, demand, or supply are occurring.

You can run DRP for more than one site at a time, as long as the receiving (demand) sites are in the same domain. Since this may take a long time to process, consider using batch mode.

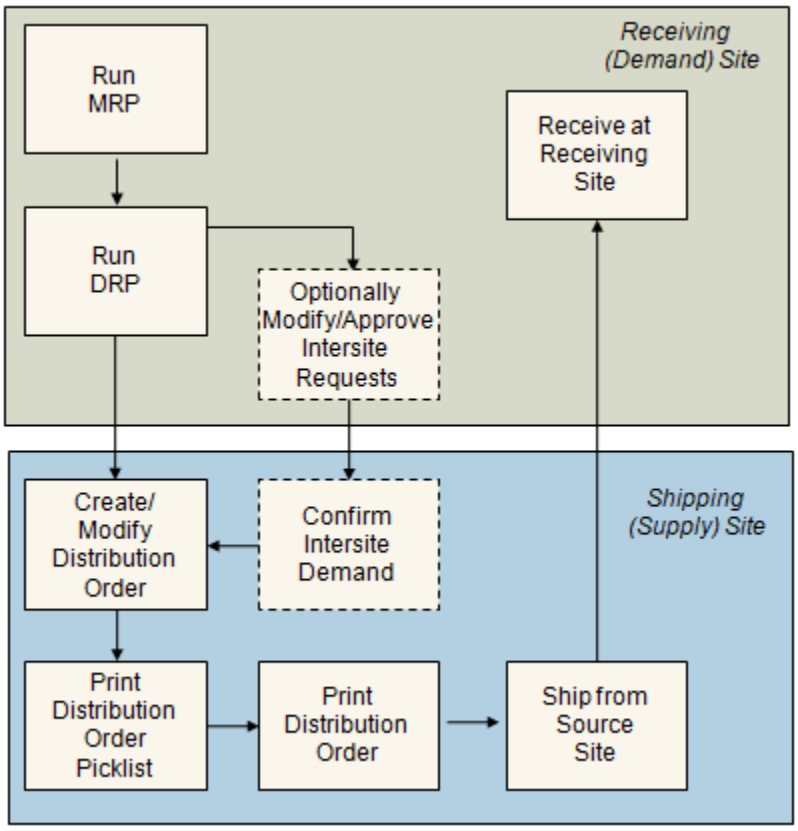
Supply sites can exist in the same domain as the demand site, in a different domain in the same database, or in a different domain in a connected database. DRP may execute slowly when supply and demand sites are associated with domains in different databases connected over a network. To support faster processing, you can:

- Run DRP in net change rather than regenerative mode.
- Run DRP at the demand site with the supply and demand databases disconnected. Then, use Intersite Demand Transfer to transfer planning data to the supply database.

When running any of the DRP material planning programs, send output to the file type of your choice.

DRP Process Flow

The following flow is typical in QAD DRP processing once you run one of the distribution planning programs:



1. Initial demand for DRP-planned items at the demand (receiving) site is calculated by MRP or generated by sales orders and forecasts.
2. DRP generates planned intersite requests at the demand site
3. Planners modify and approve intersite requests at the demand site. Since DRP- and MRP-generated requests are approved by default, this step is optional. Using Intersite Request Approval to manually approve intersite requests changes their statuses from Planned to Firm Planned. The system does not alter these requests when MRP or DRP is run again
4. Intersite requests generated by DRP create item demand at supply (supply) sites. When a required item's network code divides demand among multiple sites using a supply percent, the system generates item demand at each supply site in the network.
5. Item demand at the supply site is considered as gross requirements for requested items when MRP is run at that site. Typically, the supply site uses master scheduling functions to manage these requirements.
6. Optionally, review and manually confirm intersite requests at the supply site using the Confirm action in Intersite Demands. At this time, you can adjust some information, such as the item due date, transportation code, inventory quantities, and financial data. Changes to intersite requests at supply sites are reflected at the demand site.

Similarly, changes to intersite requests at the demand site are visible at supply sites.

7. At the supply site, group intersite requests by combining them in a distribution order using Distribution Orders. You can also create intersite requests dynamically in Distribution Orders.
8. At the supply site, optionally print orders with Distribution Order Picklist Print. (Picking can also be done in Distribution Orders.)
9. Ship orders with the Ship Allocated action in Distribution Orders. You can create shippers for a DO when a valid shipping group is associated with the ship-from and ship-to sites.
10. At the demand site, use Receive Order action in Distribution Orders to record the receipt of distribution order shipments.

Co-/By-Product Support in MRP Functions

MRP functions consider co/by-products when calculating requirements. The following topics discuss MRP processing of co/by-product planning:

1. MRP evaluates the beginning inventory, demand, supply, and safety stock for a co-product; when there is unsatisfied demand, MRP creates a demand record for its base process.

   The demand record reflects the amount of the base process required to meet the unsatisfied demand for the co-product. MRP passes demand records directly from the co-product to the base process without using the co-product's order policy or related planning parameters.
2. MRP plans orders for a by-product as a result of creating planned orders for a base process.

   MRP does not consider by-product demand when planning a base process, but unsatisfied demand for a by-product can result in a normal planned order when the item is purchased, distributed, or has a BOM/formula code for a regular formula or product structure.
3. MRP plans for a base process by determining the unsatisfied co-product demand for all co-products that reference the base process as their BOM/formula code.

   MRP then creates planned orders to fill the unsatisfied co#product demand without regard to projected quantities on hand for the base process.
   Unlike the planning process for regular items, MRP does not consider base process inventory as there is never an on-hand balance for a base process.

   Note You can use item status codes to prohibit inventory movements, as well as sales, purchase, and repetitive orders on base process items.
4. MRP does use the order policy and order modifiers for the base process, except safety stock, when creating planned orders.

When the order policy is not period order quantity (POQ) or fixed order quantity (FOQ), MRP uses an order policy of POQ. When no order period is specified, MRP uses an order period of seven days.

5. When MRP plans a base process, it searches for the first unsatisfied demand record for a co-product.

   Then, depending on whether the order policy is POQ or FOQ, MRP evaluates unsatisfied demand records for all co-products of the base process:

   - POQ: MRP searches from the first unsatisfied demand record through the end of the order period.
   - FOQ: MRP looks at all unsatisfied demand records for all co-products that fall on the same date as the first unsatisfied demand record.

   MRP creates one or more planned orders to satisfy demand for the co#product that presents the greatest demand for the base process for a specific date or date range. As a result, planned orders for the other co#products of the base process are also created.

Setting Up DRP

Review the Distributed Requirements Planning (DRP) chapter of the QAD Supply Chain User Guide Material Planning chapter. You can find the latest user guide in the QAD Document Library.

You must complete the setup tasks before you can run any of the following QAD Adaptive ERP AUX DRP Material Planning programs:

- **Net Change Distribution Plan**
- **Regenerative Distribution Plan**
- **Selective Distribution Plan**

Note There are separate material planning programs for distributed materials planning (MRP).

1. Select default options in the DRP Panel of **Planning Control**.

   Use the online help for the DRP Panel to help you set whether to combine DRP and MRP, use the App Serve and specify the server name, or

2. In **Items**, navigate to the Planning Panel, and set the Purchase/ Manufacturer option to DRP.
3. Use Network Codes and Source Networks to set up source networks.
4. Associate source networks with DRP-planned items in the **Items** by navigating to the Manufacturing Panel and selecting the network code in the Network Code option.

   Source networks are used by DRP in the same way product structures are used by MRP. MRP explodes product structures for manufactured items and creates planned orders. Similarly,

DRP explodes source networks for distribution items and generates intersite requests. For more information, refer to the online help for the Network Code option.

5. Use Transportation Modes and Transportation Networks to set up transportation networks. Then, associate transportation networks with source networks in Source Networks.

   DRP uses transportation network data to schedule intersite requests.

   The methods a company uses to transport items from source to receiving sites—trucks, ships, containers, and so on—are transportation modes. Define transportation modes in Transportation Mode . DRP uses the transportation mode's effectivity dates, load lead time, transit lead time, unload lead time, ship days, and receive days to schedule intersite requests.

   Transportation modes can designate available units—for example, how many trucks or rail cars are available—and the capacity for each unit. You must designate a different transportation mode for each type of transportation unit you want DRP to plan. For example, a company-owned fleet of trucks would use a different transportation mode for each type or size of truck.

   A transportation network identifies which method or methods are used to move products between a shipping and receiving site. Define transportation networks in Transportation Network by entering a transportation mode, also called a transportation code or ID, a shipping site, a receiving site, and effectivity dates. Lead times and available units default from the transport ID. Specify the days when shipping and receiving can be scheduled.

When you complete the setup steps, you can run Net Change, Regenerative, or Selective Distribution Plans. If you are chose to run MRP with DRP, you can run the distribution planning programs with MRP.

Run the distributed planning program of your choice. The system uses MRP to calculate the initial demand for DRP-planned items at the demand (receiving) site or it generates sales orders and forecasts.

For more information on results of each individual distribution planning program, refer to the online help for each program.

Setting Up MRP

Before you begin, review the Production Order User Guide Material Planning chapter. You can find the latest user guide in the QAD Document Library.

You must complete the setup tasks before you can run any of the following QAD Adaptive ERP AUX Material Planning (MRP) programs:

- **Net Change Materials Plan**
- **Regenerative Materials Plan**

- **Selective Materials Plan**

Note There are separate material planning programs for distributed requirements planning (DRP).

1. In **Planning Control**, navigate to the MRP Panel, and set the MRP Horizon.

   The online help provides information on how to set up the MRP Horizon option and the impact the option has on planning.

2. When you are using MRP with DRP, select the Combine MRP DRP option in the MRP Panel.

   DRP and MRP are complementary functions: you use MRP to plan supply to meet demand within a single site., and you use DRP to plan supply to meet demand for multiple sites within a single domain, and to distribute demand to other sites within the current domain, in other domains within the same database, or in other connected databases.

   Note Refer to the Planning Control online help for information on when to combined DRP and MRP.

3. Set all other options applicable to your operations in the MRP panel, using the online help explanations for the options.
4. Select options in the Planning Panel of **Items**, using the online help for each option.

   MRP uses item planning data to plan items. Important options are listed in this step.

   Note Some of the options you select set the default for all sites. The online help tells you when the value you set for an option applies to all sites. Set up site-specific values in the Site Planning subpanel of the Site panel in **Items**.

   - Master Schedule: Select if this item is master scheduled.
   - Planned Orders: Select this option to have MRP create planned orders for this item.
   - MRP Required: This option is maintained by the system and indicates when an item needs to be replanned. The system selects this option when a change is made that affects order timing or quantity, including changes to planning data, inventory balance, product structure, purchase requisitions and orders, sales orders, work orders, master schedule, repetitive schedule, or forecast for the item.
   - Time Fence: Enter the number of calendar days inside of which MRP should not automatically replan this item. This option works in conjunction with the Planned Orders option. Refer to the online help.

- Order Policy: This option determines how MRP plans orders for this item
- Purchase/Manufacture: The Purchase/Manufacture code affects both MRP and DRP. MRP generates planned work or line orders for manufactured items and planned purchase orders for purchased items; however, you can create and approve planned work or line orders for purchased items or planned purchase orders for manufactured items. The online help for the option describes valid code options.
- Run Sequence: Run sequences are used when MRP planned orders are approved for line manufacture.
- Minimum and Maximum Order: MRP uses the minimum order quantity to determine the quantity of planned orders, regardless of the order policy. If the net requirement is below this amount, MRP creates an order for the minimum quantity. Setting an order maximum does not prevent you from ordering more than this quantity. When MRP calculates a requirement greater than the maximum order quantity, it creates a planned order for the amount needed.
- Order Multiple: MRP uses order multiple to determine the quantity of planned orders only when order policy is period order policy (POQ) or lot for lot (LFL).
- Order Quantity: MRP generates planned orders for this quantity when this item's order policy is fixed order quantity (FOQ).
- Order Period: Enter the number of calendar days that MRP should use to determine a planning period when Order Policy is POQ (period order quantity).
- Safety Stock: MRP considers safety stock a requirement, and schedules planned orders to cover this amount. When quantity on hand falls below the safety stock quantity, MRP plans an order. Safety stock is especially important for critical items, when a shortage can stop production.
- Lead Time: Set Inspection, Manufacturing, or Purchasing Lead Time options. MRP uses the purchasing and inspection lead times to determine the suggested release date for planned orders. MRP uses manufacturing lead time to determine the suggested release date for planned orders. When you create a work order for a purchased or manufactured item, the system uses this lead time to calculate the release date or due date.

5. In the Inventory Panel of **Items**, assign a non-nettable inventory status code to inventories that should not be considered quantity on hand by MRP. This might include inventory to be returned to a supplier or designated as scrap or salvage.

Product structures and formulas provide some of the information used in MRP calculations, including component quantities, lead times, and effective dates.

6. In **Product Structures & Formulas**, check the setting of the following options through the Component Panel's grid. You can select Details to change some options:
    - Component Quantity: To calculate component requirements for planned orders, MRP multiplies each component’s quantity per assembly value by the planned order release quantity.
    - Component LT Offset: MRP determines a component’s due or required date using the scheduled release date of the parent item and the component lead time offset specified in the product structure.
    - Component Effective Date: MRP uses component effective dates to determine which components are required for a given order due date. Components are active beginning on the start date specified in the product structure and remain active through the stop date, the last day a component will be used.

When you complete the setup steps, you can run Net Change, Regenerative, or Selective Materials Plan. If you are chose to run MRP with DRP, you can run the DRP Net Change, Regenerative, or Selective Material Plans with MRP.

Run the MRP or MRP and DRP program of your choice to generate planned orders. The system displays results on screen once you run the function. You can use MPS MRP Detail to view a detailed material requirements planning for specific date buckets. Item requirements are summarized by week. The beginning day of the week is specified in the Summary Default option in **Planning Control**. Calculations are based on this weekly period.

Net Change Distribution Plan

Before invoking this function, follow the steps to set up for Distribution Requirements Planning on page 3360. For DRP flow and concepts for both MRP and DRP, see Materials Planning Introduction on page 3355

Net Change Distribution Plan considers only items with MRP Required selected in the Planning panel of **Items**. The system sets this option to Yes automatically when changes occur for an item in any of the following areas:

- Item or item-site planning data
- Product structures
- Sales or purchase orders
- Inventory

- Forecast
- Master production schedule
- Intersite demand
- Associated transportation networks, when Update MRP Fields is Yes in Transportation Networks .

Multiple Domains

Supply sites can exist in the same domain as the demand site or in a different domain in the same database. DRP may execute slowly when supply and demand sites are associated with different domains. To support faster processing, you can run DRP in net change mode rather than regenerative mode.

Executing DRP with MRP

When you plan distributed items using MRP, MRP:

- Calculates gross requirements for distributed items at the demand site
- Creates intersite requests at the demand site and demand records at supply sites to fill these requirements
- Plans supply to fill the item demand at each supply site that is in the same domain as the demand site

MRP uses low-level codes to determine the order in which to plan items. Low-level codes maintain a numeric value for each item relative to its parent item. This includes items planned across sites, but not across domains. The lowest-level components of product structures in the domain are assigned low-level codes of zero (0). Items at the next subsequent level are assigned a low-level code of –1, and so on.

When MRP is run across multiple sites in the same domain, it processes lower-level items first, regardless of site. Purchase orders and intersite requests are generated after all site and intersite demand has been calculated

Because item planning, product structure, MRP, and DRP transactions can alter low-level codes, net change and regenerative MRP and DRP automatically update low-level codes before performing calculations. Selective MRP and DRP only update low-level codes when run the functions with the Resolve Low Level Codes option selected in either**Selective Distribution Plan** or **Selective Materials Plan**.

Executing DRP as a Separate Function

Running MRP and DRP as separate functions divides processing times into two periods, which may be required due to hardware limitations.

If you choose to run MRP and DRP separately, MRP generates gross requirements for distributed items, but does not generate intersite requests. You must run Net Change Distribution Plan, Regenerative Distribution Plan, or Selective Distribution Plan to explode gross requirements for distribution items and generate requests.

When you should run DRP in relation to MRP for a given site depends on where distribution items appear in the product structures for that site:

- • For sites that distribute finished products, you usually run DRP before MRP to generate demand for those products at other sites.
- • For sites that supply component items to other sites, run MRP first.

When DRP is run or MRP and DRP are run in combination, the demand and supply sites may be associated with different domains in the same database. In this case, item demand generated by DRP at the demand site is immediately communicated to the supply site.

For a supply site to confirm or enter distribution orders, it must be connected to the demand database. When the connection between the supply and demand database is temporarily unavailable, run Intersite Demand Validation at the supply site as soon as it returns.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Set the following filter criteria, as needed.

Site

Enter a valid site code for selecting production lines

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Synchronized Calculation

Select Yes to run the MRP/DRP calculation simultaneously with other calculations sharing the same synchronization code.

Synchronized calculations benefit you if you have Symmetric Multiple Processor (SMP) computers. For greatest efficiency, you can run one calculation per machine for a given synchronization code.

Note If you use a Progress application server (AppServer) to run MRP/DRP on an SMP computer, select No.

To run synchronized MRP/DRP, use any of the six materials or distribution requirements planning programs. Open multiple views of the program. In each view, set your site, item, and other parameters. Select Yes for Synchronized Calculation, and enter the same

Synchronization Code for all instances. Then start each instance of the program.

During synchronized runs, the system updates lower level codes and sets MRP/DRP Required fields if necessary. Then each calculation selects a separate item and starts planning it. When a calculation selects an item, it leaves a record of the item, site and low level code in a coordinating work table. When another calculation selects the next unplanned item, it first checks the work table. If the item the calculation selected is being replanned by another calculation, it selects the next record. If any item in the work table has a lower low-level code than the one for the item selected, the calculation waits until all items at that lower level are planned before replanning the selected item.

When a calculation finishes replanning an item, it updates the item's MRP/DRP Required field to No and erases the coordinating work table record. And then selects the next record

If you start the calculations with identical selection criteria, for instance the same site range, then all calculations take the next available record for replanning. This results in the most efficient processing, since at the completion of any planning level, a calculation only waits for the other calculations to complete their last item at that level before all calculations start on the next level.

If you start one calculation for each site, or for distinct site ranges, then when a calculation completes a level, it must wait for the calculation that takes the longest to complete its item list. If you have a site that has many more items on a given level, that creates many more orders, or if an SMP machine is being slowed by other unrelated processes, you can end up with temporarily idle calculations. The advantage of running calculations by distinct sites or ranges is that the audit reports print the planned items in the ranges you entered in each calculation.

Synchronized Code

Select the user-defined alphanumeric code that is shared by multiple, concurrent synchronized MRP/DRP calculations.

Synchronization codes distinguish a set of synchronized calculations. All calculations that are started with the same synchronization code write to the same coordinating work table. If a calculation is started with a different synchronization code, it will run without waiting for other calculations running the same time, and may cause locking problems and double processing. A blank synchronization code is valid.

Number of AppServer Threads

Enter the number of processing threads the Progress application server can use in starting agents for MRP/DRP processing during

this session. This value defaults from MRP Control or DRP Control, depending on which module you are using.

When your system is configured to use an AppServer for MRP/DRP processing, the system distributes the processing load across multiple processors to greatly reduce the amount of time needed to run the application. When a thread completes planning for a given level, the program reuses the existing thread for the next level. This process continues until all items are planned.

Depending on the load on the system at the time you run MRP/DRP, you can update the number of AppServer threads that the AppServer can use to distribute the processing load. For example, when you know that other processing-intensive activities are not being run, you can increase the number of threads, allowing the system to improve MRP performance by applying more resources.

Regenerative Distribution Plan

Before invoking this function, follow the steps to set up for Distribution Requirements Planning on page 3360. For DRP flow and concepts for both MRP and DRP, see Materials Planning Introduction on page 3355

Regenerative Distribution Plan considers only items with MRP Required selected in the Planning panel of **Items**. The system sets this option to Yes automatically when changes occur for an item in any of the following areas:

Regenerative Distribution Plan and Net Change Distribution Plan on page 3364 produce the same results; however, Regenerative Distribution Plan only considers distribution items that have had a change in inventory information, design, forecast, cost, and so on since DRP was last run. For this reason, Regenerative Distribution Plan often runs more quickly.

For discussions on the DRP processing flow, DRP multiple domain and database concepts, or using DRP programs with MRP or by themselves, refer to the online help for Net Change Distribution Plan on page 3364.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Set the following filter criteria, as needed. You can set filter criteria for the site, blah blah blah

Site

Enter a valid site code for selecting production lines

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Synchronized Calculation

Select Yes to run the MRP/DRP calculation simultaneously with other calculations sharing the same synchronization code.

Synchronized calculations benefit you if you have Symmetric Multiple Processor (SMP) computers. For greatest efficiency, you can run one calculation per machine for a given synchronization code.

Note If you use a Progress application server (AppServer) to run MRP/DRP on an SMP computer, select No.

To run synchronized MRP/DRP, use any of the six materials or distribution requirements planning programs. Open multiple views of the program. In each view, set your site, item, and other parameters. Select Yes for Synchronized Calculation, and enter the same Synchronization Code for all instances. Then start each instance of the program.

During synchronized runs, the system updates lower level codes and sets MRP/DRP Required fields if necessary. Then each calculation selects a separate item and starts planning it. When a calculation selects an item, it leaves a record of the item, site and low level code in a coordinating work table. When another calculation selects the next unplanned item, it first checks the work table. If the item the calculation selected is being replanned by another calculation, it selects the next record. If any item in the work table has a lower low-level code than the one for the item selected, the calculation waits until all items at that lower level are planned before replanning the selected item.

When a calculation finishes replanning an item, it updates the item's MRP/DRP Required field to No and erases the coordinating work table record. And then selects the next record

If you start the calculations with identical selection criteria, for instance the same site range, then all calculations take the next available record for replanning. This results in the most efficient processing, since at the completion of any planning level, a calculation only waits for the other calculations to complete their last item at that level before all calculations start on the next level.

If you start one calculation for each site, or for distinct site ranges, then when a calculation completes a level, it must wait for the calculation that takes the longest to complete its item list. If you have a site that has many more items on a given level, that creates many more orders, or if an SMP machine is being slowed by other unrelated processes, you can end up with temporarily idle calculations. The advantage of running calculations by distinct sites or ranges is that the audit reports print the planned items in the ranges you entered in each calculation.

Synchronized Code

Select the user-defined alphanumeric code that is shared by multiple, concurrent synchronized MRP/DRP calculations.

Synchronization codes distinguish a set of synchronized calculations. All calculations that are started with the same synchronization code write to the same coordinating work table. If a calculation is started with a different synchronization code, it will run without waiting for other calculations running the same time, and may cause locking problems and double processing. A blank synchronization code is valid.

Number of AppServer Threads

Enter the number of processing threads the Progress application server can use in starting agents for MRP/DRP processing during this session. This value defaults from MRP Control or DRP Control, depending on which module you are using.

When your system is configured to use an AppServer for MRP/DRP processing, the system distributes the processing load across multiple processors to greatly reduce the amount of time needed to run the application. When a thread completes planning for a given level, the program reuses the existing thread for the next level. This process continues until all items are planned.

Depending on the load on the system at the time you run MRP/DRP, you can update the number of AppServer threads that the AppServer can use to distribute the processing load. For example, when you know that other processing-intensive activities are not being run, you can increase the number of threads, allowing the system to improve MRP performance by applying more resources.

Selective Distribution Plan

Before invoking this function, follow the steps to set up for Distribution Requirements Planning on page 3360. For DRP flow and concepts for both MRP and DRP, see Materials Planning Introduction on page 3355

Selective Distribution Plan considers only items with MRP Required selected in the Planning panel of **Items**. The system sets this option to Yes automatically when changes occur for an item in any of the following areas:

You can run this function in net change mode by setting Required Items Only to Yes or in regenerative mode by setting Required Items Only to No.

Note Be careful when using this feature. It does not always yield the same results as **Net Change Distribution Plan** or **Regenerative Distribution Plan** since it does not implode higher-level requirements. You should define menu security for this program to restrict access.

Once you select Setting and Filter panel options, select Run. The system displays output, or you can specify other types of output in the File Type option in Settings.

Settings

Optionally, set options in three subpanels provided in the Settings Panel: Format, Date Display, Decimal Display.

Format

File Type

Enter a file type for the output of this function. Choose from PDF, Excel, plain text or PDF-read only.

Filter Criteria Display

Choose from Footer, Header, or None.

Language

Choose the language for the display: Chinese (China), Spanish (Spain) Czech (Czech Republic), Dutch(Netherlands), French (France), German (Germany), Japanese (Japan), Italian (Italy), Korean (South Korea), Spanish (Mexico), Polish (Poland), Portuguese (Brazil), Chinese (Taiwan), English (United States).

Layout

Select the layout.

Date Display

Short Date Format

Select how the system displays the date. Choose from year first, month first, day first, and single digit, double digit, or quadruple digit year, and so on. The default is M/d/yyyy.

Date Separator

Select how the system separates the month, day, and year in the display. Choose from period, comma, or forward slash (/). The default is forward slash.

Decimal Display

Decimal Separator

Select how the system separates decimals in the display. Choose from comma or period. The default is period.

Decimal Digits

Select the number or decimal digits display. Choose from 0 through 9. The default is 2.

Grouping Separator

Select how the system separates groups in the display. Choose from a space, a period, or a comma.

Digit Grouping

Select how the system groups and separates decimals. Choose from 12 34 56 789, three 3-digit groups, three 2-digit groups and a single three-digit group. The default is a three 3-digit grouping: 123 456 789 with spaces between the 3-digit groupings.

Filter

Set the following filter criteria, as needed.

Item Number

Enter valid item number(s) for this function.

Items must have the Purchase/Manufacturing code set to DRP. You can do this in **Items** by navigating to the Planning Pane to find the Purchase/Manufacturer option.

Site

Enter a valid site code for selecting production lines

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Master Scheduled Items

Select Yes to replan those items that have Master Schedule selected in the Planning Panel in **Items**.

In tandem with Non-Master Scheduled Items (you must select Yes for one or both to plan orders), selecting Yes specifies that the system replans orders for items that have both the Master Schedule option and the Plan Orders option selected in the Planning Panel in **Items**. Selecting No specifies they should not be replanned.

Non-Master Scheduled Items

Select Yes to replan those items that do not have Master Schedule selected in the Planning Panel in **Items**. Refer to the Master Scheduled Items option.

MRP Items

Select this option to plan for MRP items only. You can edit this option only when the Combine MRP DRP option is selected in the DRP Panel of **Planning Control**.

DRP Items

Select this option to plan for DRP items only. You can edit this option only when the Combine MRP DRP option is selected in the DRP Panel of **Planning Control**.

Required Items Only

Select Yes to include only items marked for replanning.

Items marked for replanning are identified with MRP Required selected in the Planning Panel of **Items**. An item is marked by the system for replanning whenever a change is made affecting order timing or quantity, including changes to the planning data, inventory balance, product structure, purchase requisitions and orders, sales orders, work orders, master schedule, repetitive schedule, or forecast for the item.

When you select Yes, the system runs in net change mode. In net change mode, only the difference between the previous plan and the latest one is handled by MRP. To run this function in regenerative mode, select No.

Resolve Low Level Codes

This option indicates whether to analyze and resolve all low level codes. Items marked for low level recalculation have a value of 99999. When you select Yes, all items marked for low-level recalculation are resolved. When you select No, items are not analyzed to see if they are marked for low-level recalculation.

DRP uses the resolved low-level codes when planning orders. If low-level codes are unresolved when DRP is run, the results of the DRP run may not be totally accurate.

Buyer/Planner

Specify a valid Buyer/Planner to filter selections for this function.

Prod Line

Specify a valid production line to filter selections for this function.

Group

Specify a valid group to filter selections for this function.

Item Type

Specify a valid item type to filter selections for this function.

Supplier

Specify a valid supplier to filter selections for this function.

Purchase/Manufacturer

Specify the Purchase/Manufacture code to filter selections for this function. For DRP items, Purchase/Manfacture is set to D Iin the Planning Panle of n **Items**.

Synchronized Calculation

Select Yes to run the MRP/DRP calculation simultaneously with other calculations sharing the same synchronization code.

Synchronized calculations benefit you if you have Symmetric Multiple Processor (SMP) computers. For greatest efficiency, you can run one calculation per machine for a given synchronization code.

Note If you use a Progress application server (AppServer) to run MRP/DRP on an SMP computer, select No.

To run synchronized MRP/DRP, use any of the six materials or distribution requirements planning programs. Open multiple views of the program. In each view, set your site, item, and other parameters. Select Yes for Synchronized Calculation, and enter the same Synchronization Code for all instances. Then start each instance of the program.

During synchronized runs, the system updates lower level codes and sets MRP/DRP Required fields if necessary. Then each calculation selects a separate item and starts planning it. When a calculation selects an item, it leaves a record of the item, site and low level code in a coordinating work table. When another calculation selects the next unplanned item, it first checks the work table. If the item the calculation selected is being replanned by another calculation, it selects the next record. If any item in the work table has a lower low-level code than the one for the item selected, the calculation waits until all items at that lower level are planned before replanning the selected item.

When a calculation finishes replanning an item, it updates the item's MRP/DRP Required field to No and erases the coordinating work table record. And then selects the next record

If you start the calculations with identical selection criteria, for instance the same site range, then all calculations take the next available record for replanning. This results in the most efficient processing, since at the completion of any planning level, a calculation only waits for the other calculations to complete their last item at that level before all calculations start on the next level.

If you start one calculation for each site, or for distinct site ranges, then when a calculation completes a level, it must wait for the calculation that takes the longest to complete its item list. If you have a site that has many more items on a given level, that creates many more orders, or if an SMP machine is being slowed by other unrelated processes, you can end up with temporarily idle calculations. The advantage of running calculations by distinct sites or ranges is that the audit reports print the planned items in the ranges you entered in each calculation.

Synchronized Code

Select the user-defined alphanumeric code that is shared by multiple, concurrent synchronized MRP/DRP calculations.

Synchronization codes distinguish a set of synchronized calculations. All calculations that are started with the same synchronization code write to the same coordinating work table. If a calculation is started with a different synchronization code, it will run without waiting for other calculations running the same time, and may cause locking problems and double processing. A blank synchronization code is valid.

Number of AppServer Threads

Enter the number of processing threads the Progress application server can use in starting agents for MRP/DRP processing during this session. This value defaults from MRP Control or DRP Control, depending on which module you are using.

When your system is configured to use an AppServer for MRP/DRP processing, the system distributes the processing load across multiple processors to greatly reduce the amount of time needed to run the application. When a thread completes planning for a given level, the program reuses the existing thread for the next level. This process continues until all items are planned.

Depending on the load on the system at the time you run MRP/DRP, you can update the number of AppServer threads that the AppServer can use to distribute the processing load. For example, when you know that other processing-intensive activities are not being run, you can increase the number of threads, allowing the system to improve MRP performance by applying more resources.

Net Change Materials Plan

Before invoking this function, follow the steps in Setting Up MRP on page 3361. For MRP flow and concepts or for information on using MRP with DRP, see Materials Planning Introduction on page 3355

Net Change Materials Plan considers only items with MRP Required selected in the Planning panel of **Items**. MRP lets you plan supply to meet demand for purchased and manufactured items in a time-phased manner. It uses a site's master schedule and all other sources of demand and supply to:

- Calculate gross requirements and projected on-hand inventory
- Schedule and plan orders
- Produce action messages for managing the materials plan

In addition to planning items that have changed, net change MRP recalculates lower-level requirements for items planned. Typically, Net Change MRP is run daily.

Net Change Material Plan functions similar to Selective Materials Plan on page 3380. Refer to the online help for that program to understand the following important features, functions, or concepts:

- Improved MRP processing using Symmetric Multiple Processor (SMP) computers
- MRP and sites
- Low level codes
- Sources of demand and supply
- MRP and co-/by-products
- Input to MRP calculations
- MRP output

Settings

For more information about running reports, see: Reports on page 296.

Filter

Set the following filter criteria, as needed.

Site

Enter a valid site code for selecting production lines

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Synchronized Calculation

Select Yes to run the MRP calculation simultaneously with other calculations sharing the same synchronization code.

Synchronized calculations benefit you if you have Symmetric Multiple Processor (SMP) computers. For greatest efficiency, you can run one calculation per machine for a given synchronization code.

Note If you use a Progress application server (AppServer) to run MRP on an SMP computer, select No.

To run synchronized MRP, use any of the six materials or distribution requirements planning programs. Open multiple views of the program. In each view, set your site, item, and other parameters. Select Yes for Synchronized Calculation, and enter the same Synchronization Code for all instances. Then start each instance of the program.

During synchronized runs, the system updates lower level codes and sets MRP Required fields if necessary. Then each calculation selects a separate item and starts planning it. When a calculation selects an item, it leaves a record of the item, site and low level code in a coordinating work table. When another calculation selects the next unplanned item, it first checks the work table. If the item the calculation

selected is being replanned by another calculation, it selects the next record. If any item in the work table has a lower low-level code than the one for the item selected, the calculation waits until all items at that lower level are planned before replanning the selected item.

When a calculation finishes replanning an item, it updates the item's MRP Required field to No and erases the coordinating work table record. And then selects the next record

If you start the calculations with identical selection criteria, for instance the same site range, then all calculations take the next available record for replanning. This results in the most efficient processing, since at the completion of any planning level, a calculation only waits for the other calculations to complete their last item at that level before all calculations start on the next level.

If you start one calculation for each site, or for distinct site ranges, then when a calculation completes a level, it must wait for the calculation that takes the longest to complete its item list. If you have a site that has many more items on a given level, that creates many more orders, or if an SMP machine is being slowed by other unrelated processes, you can end up with temporarily idle calculations. The advantage of running calculations by distinct sites or ranges is that the audit reports print the planned items in the ranges you entered in each calculation.

Synchronized Code

Select the user-defined alphanumeric code that is shared by multiple, concurrent synchronized MRP calculations.

Synchronization codes distinguish a set of synchronized calculations. All calculations that are started with the same synchronization code write to the same coordinating work table. If a calculation is started with a different synchronization code, it will run without waiting for other calculations running the same time, and may cause locking problems and double processing. A blank synchronization code is valid.

Number of AppServer Threads

Enter the number of processing threads the Progress application server can use in starting agents for MRP processing during this session. This value defaults from the MRP Panel in **Planning Control**.

When your system is configured to use an AppServer for MRP processing, the system distributes the processing load across multiple processors to greatly reduce the amount of time needed to run the application. When a thread completes planning for a given level, the program reuses the existing thread for the next level. This process continues until all items are planned.

Depending on the load on the system at the time you run MRP, you can update the number of AppServer threads that the AppServer can use to distribute the processing load. For example, when you know that other processing-intensive activities are not being run, you can increase the

number of threads, allowing the system to improve MRP performance by applying more resources.

Regenerative Materials Plan

Before invoking this function, follow the steps in Setting Up MRP on page 3361. For MRP flow and concepts or for information on using MRP with DRP, see Materials Planning Introduction on page 3355

Regenerative Materials Plan considers only items with MRP Required selected in the Planning panel of **Items**. The system sets this option to Yes automatically when changes occur for an item in any of the following areas:

Regenerative Materials Plan and Net Change Materials Plan on page 3375 produce the same results; however, Regenerative Materials Plan only considers items that have had a change in inventory information, design, forecast, cost, and so on since MRP was last run.

Regenerative Materials Plan uses a site's master schedule and all other sources of demand and supply to:

- Calculate gross requirements and projected on-hand inventory
- Schedule and plan orders
- Produce action messages for managing the materials plan

This transaction may take some time to process. Submit it in batch to continue using your system for other tasks.

To shorten the processing time for generating a new plan using net change or regenerative MRP, consider changing the MRP Horizon option in the MRP Panel of **MRP Control**. Make sure to reset it when MRP completes.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Set the following filter criteria, as needed. You can set filter criteria for the site, blah blah blah

Site

Enter a valid site code for selecting production lines

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Synchronized Calculation

Select Yes to run the MRP calculation simultaneously with other calculations sharing the same synchronization code.

Synchronized calculations benefit you if you have Symmetric Multiple Processor (SMP) computers. For greatest efficiency, you can run one calculation per machine for a given synchronization code.

Note If you use a Progress application server (AppServer) to run MRP on an SMP computer, select No.

To run synchronized MRP, use any of the six materials or distribution requirements planning programs. Open multiple views of the program. In each view, set your site, item, and other parameters. Select Yes for Synchronized Calculation, and enter the same Synchronization Code for all instances. Then start each instance of the program.

During synchronized runs, the system updates lower level codes and sets MRP Required fields if necessary. Then each calculation selects a separate item and starts planning it. When a calculation selects an item, it leaves a record of the item, site and low level code in a coordinating work table. When another calculation selects the next unplanned item, it first checks the work table. If the item the calculation selected is being replanned by another calculation, it selects the next record. If any item in the work table has a lower low-level code than the one for the item selected, the calculation waits until all items at that lower level are planned before replanning the selected item.

When a calculation finishes replanning an item, it updates the item's MRP Required field to No and erases the coordinating work table record. And then selects the next record

If you start the calculations with identical selection criteria, for instance the same site range, then all calculations take the next available record for replanning. This results in the most efficient processing, since at the completion of any planning level, a calculation only waits for the other calculations to complete their last item at that level before all calculations start on the next level.

If you start one calculation for each site, or for distinct site ranges, then when a calculation completes a level, it must wait for the calculation that takes the longest to complete its item list. If you have a site that has many more items on a given level, that creates many more orders, or if an SMP machine is being slowed by other unrelated processes, you can end up with temporarily idle calculations. The advantage of running calculations by distinct sites or ranges is that the audit reports print the planned items in the ranges you entered in each calculation.

Synchronized Code

Select the user-defined alphanumeric code that is shared by multiple, concurrent synchronized MRP calculations.

Synchronization codes distinguish a set of synchronized calculations. All calculations that are started with the same synchronization code write to the same coordinating work table. If a calculation is started with a different synchronization code, it will run without waiting for other calculations running the same time, and may cause locking problems and double processing. A blank synchronization code is valid.

Number of AppServer Threads

Enter the number of processing threads the Progress application server can use in starting agents for MRP processing during this session. This value defaults from selections in the MRP Panel of**Planning Control**.

When your system is configured to use an AppServer for MRP processing, the system distributes the processing load across multiple processors to greatly reduce the amount of time needed to run the application. When a thread completes planning for a given level, the program reuses the existing thread for the next level. This process continues until all items are planned.

Depending on the load on the system at the time you run MRP, you can update the number of AppServer threads that the AppServer can use to distribute the processing load. For example, when you know that other processing-intensive activities are not being run, you can increase the number of threads, allowing the system to improve MRP performance by applying more resources.

Selective Materials Plan

Before invoking this function, follow the steps to set up for Setting Up MRP on page 3361. For MRP flow and concepts, or to use MRP with Distributed Requirements Planning (DRP), see Materials Planning Introduction on page 3355

Use Selective Materials Plan to calculate demand and plan supply for ranges of items selected by item number, buyer/planner, product line, group, item type, supplier, and purchase/manufacture code. You can also choose to plan either master scheduled items or non-master scheduled items or both. Similarly, you can plan either material requirements planning (MRP) items or distribution requirements planning (DRP) items or both.

Note If you choose to plan only master scheduled items, orders are planned for parent items and gross requirements passed down to the next-level components. However, no orders are planned for the components.

Selective Materials Plan considers only items with MRP Required selected in the Planning panel of **Items**. The system sets this option to Yes automatically when changes occur for an item in any of the following areas:

Selective MRP recalculates demand and plans supply only for selected items, passing down gross requirements to the next non-selected level, but not replanning orders. It does not implode product structures to replan higher-level items before planning selected items, nor does it explode resulting orders to calculate component demand.

You can run this function in net change mode by setting Required Items Only to Yes or in regenerative mode by setting Required Items Only to No.

Note Be careful when using this feature. It does not always yield the same results as **Net Change Materials Plan** or **Regenerative Materials Plan** since it does not implode higher-level requirements. You should define menu security for this program to restrict access.

Once you select Setting and Filter panel options, select Run. The system displays output, or you can specify other types of output in the File Type option in Settings.

Improved Processing

If you use Symmetric Multiple Processor (SMP) computers, you can use the Synchronized Calculation and Synchronization Code fields in MRP functions to run multiple MRP sessions concurrently. On SMP machines, you can run one session on each available machine for a given synchronization code against a single domain.

Additionally, if you have SMP computers and the Progress application server (AppServer), you can define AppServer instances that use multithreading to distribute the processing load among multiple processors. Specify AppServer setup information in MRP Control. You can update the default number of threads used each time you run MRP.

Low Level Codes

MRP uses low-level codes to determine the order in which to plan items. Low-level codes maintain a numeric value for each item relative to its parent item. This includes items planned across sites within a single domain.

The lowest-level components of product structures in the current working domain are assigned low-level codes of zero (0). Items at the next level are assigned a low-level code of –1, and so on.

Example: At a particular site, a purchased component has a low-level code of 0. That component is then built into an assembly, which is assigned a low-level code of –1. The assembly item is built into an end item that is assigned a low-level code of –2. The end item is then packaged and assigned a low-level code of –3.

When MRP is run across multiple sites in the same domain, it processes lower-level items first, regardless of site. Planned orders are generated after all demand has been calculated.

Because item planning, product structure, MRP, and DRP transactions can alter low-level codes, net change and regenerative MRP automatically update low-level codes before performing calculations. Selective MRP updates low-level codes only if you select Resolve Low Level Codes in the Filter panel of this function . You can also use Low Level Code Update to resolve codes as a separate step.

Sources of Demand

MRP uses the master production schedule to calculate dependent component demand. Dependent demand is directly derived from the demand for other items, and includes demand for component items, raw materials, and subassemblies.

Independent demand is demand that cannot be calculated or derived from demand for other products. It is represented through forecasts and sales orders, and includes demand for end products and replacement items. Independent demand generally is passed to MRP through the master production schedule.

MRP considers the following as sources of demand:

- Forecasts
- Sales orders
- Customer scheduled orders from a required ship schedule
- Intersite orders, generated by DRP
- Component requirements from manufacturing
- Production forecasts
- Safety stock requirements

MRP does not consider unconfirmed sales orders or component requirements from batch firm planned orders as sources of demand.

MRP considers the following as sources of supply:

- Nettable quantity on hand (QOH)
- Purchase orders
- Intersite requests, generated by DRP
- Manufacturing orders (work orders and repetitive schedules)
- Quality orders
- Supplier scheduled orders
- Safety stock requirements

MRP does not consider blanket purchase orders or non-nettable inventory as sources of supply.

MRP plans co-products and base processes differently than other items. The unsatisfied net requirements for co-products are passed down to their respective base process items. MRP then generates planned orders for base process items to meet these requirements. The planned order for base process items are imploded, creating planned orders for each of the co-products and by-products.

Input to MRP

MRP calculates order quantities using the order policies and modifiers established in Planning Panel of **Items**. Planned orders are generated only for items with Plan Orders set to Yes.

The order policy determines how many planned orders MRP generates, as well as the size of each order. Order modifiers include order quantity, safety stock, minimum order, maximum order, and order multiple. MRP plans for additional items based on each item’s yield percentage.

Order timing is determined using the item's lead time, safety time, and the work days established in the shop calendar.

MRP generates component requirements using the standard product structure or formula effective for that item-site on the date of the requirement. Alternate structures and substitute items are not considered by planning.

Yield is also considered by MRP when it calculates component requirements. These calculations are based either on the parent item yield percentage or the yield associated with each operation in the parent’s routing. Operation-based yield is used when both of the following are true:

- Enable Op Based Yield is Yes in MRP Control.
- Op Based Yield is Yes for the parent item in Item Master or Item-Site Planning .

MRP Output

The primary outputs of MRP are planned orders and action messages. These are generated when MRP detects an imbalance of supply and demand:

- If supply exceeds demand, MRP automatically reschedules or cancels planned orders and generates messages
- If demand exceeds supply, MRP reschedules or creates planned orders and generates messages suggesting you expedite or create orders.

Settings

For more information about running reports, see: Reports on page 296.

Filter

Set the following filter criteria, as needed.

Item Number

Enter valid item number(s) for this function.

Items must have the Purchase/Manufacturing code set to P(lanned). You can do this in **Items** by navigating to the Planning Pane to find the Purchase/Manufacturer option.

Site

Enter a valid site code for selecting production lines

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Master Scheduled Items

Select Yes to replan those items that have Master Schedule selected in the Planning Panel in **Items**.

In tandem with Non-Master Scheduled Items (you must select Yes for one or both to plan orders), selecting Yes specifies that the system replans orders for items that have both the Master Schedule option and the Plan Orders option selected in the Planning Panel in **Items**. Selecting No specifies they should not be replanned.

Non-Master Scheduled Items

Select Yes to replan those items that do not have Master Schedule selected in the Planning Panel in **Items**. Refer to the Master Scheduled Items option.

MRP Items

MRP items are those marked with Plan Orders selected in the Planning Panel of **Items**. When you select Yes for MRP Items, the system replans these items. No specifies they should not be replanned.

DRP Items

Select this option to plan distribution (DRP) items. DRP items are those with the Purchase/Manufacture option set for D(RP) in the Planning Panel of **Items**.

Normally these items are planned using DRP calculations. Yes specifies that these items should be replanned. No specifies they should not.

Required Items Only

Select Yes to include only items marked for replanning.

Items marked for replanning are identified with MRP Required selected in the Planning Panel of **Items**. An item is marked by the system

for replanning whenever a change is made affecting order timing or quantity, including changes to the planning data, inventory balance, product structure, purchase requisitions and orders, sales orders, work orders, master schedule, repetitive schedule, or forecast for the item.

When you select Yes, the system runs MRP only for those items marked for replanning. When you select No, the system includes all selected items.

Resolve Low Level Codes

This option indicates whether to analyze and resolve all low level codes. Items marked for low level recalculation have a value of 99999. When you select Yes, all items marked for low-level recalculation are resolved. When you select No, items are not analyzed to see if they are marked for low-level recalculation.

MRP uses the resolved low-level codes when planning orders. If low-level codes are unresolved when MRP is run, the results of the MRP run may not be totally accurate.

Buyer/Planner

Specify a valid Buyer/Planner to filter selections for this function.

Prod Line

Specify a valid production line to filter selections for this function.

Group

Specify a valid group to filter selections for this function.

Item Type

Specify a valid item type to filter selections for this function.

Supplier

Specify a valid supplier to filter selections for this function.

Purchase/Manufacturer

Specify the Purchase/Manufacture code to filter selections for this function. For DRP items, Purchase/Manfacture is set to D in the Planning Panel of **Items**.

Synchronized Calculation

Select Yes to run the MRP calculation simultaneously with other calculations sharing the same synchronization code.

Synchronized calculations benefit you if you have Symmetric Multiple Processor (SMP) computers. For greatest efficiency, you can run one calculation per machine for a given synchronization code.

Note If you use a Progress application server (AppServer) to run MRP on an SMP computer, select No.

To run synchronized MRP, use any of the three materials or three distribution requirements planning programs. Open multiple views of the program. In each view, set your site, item, and other parameters. Select Yes for Synchronized Calculation, and enter the same Synchronization Code for all instances. Then start each instance of the program.

During synchronized runs, the system updates lower level codes and sets MRP Required fields if necessary. Then each calculation selects a separate item and starts planning it. When a calculation selects an item, it leaves a record of the item, site and low level code in a coordinating work table. When another calculation selects the next unplanned item, it first checks the work table. If the item the calculation selected is being replanned by another calculation, it selects the next record. If any item in the work table has a lower low-level code than the one for the item selected, the calculation waits until all items at that lower level are planned before replanning the selected item.

When a calculation finishes replanning an item, the system updates the item's MRP Required option by setting it to No; erases the coordinating work table record; then, selects the next record.

If you start the calculations with identical selection criteria, for instance the same site range, then all calculations take the next available record for replanning. This results in the most efficient processing, since at the completion of any planning level, a calculation only waits for the other calculations to complete their last item at that level before all calculations start on the next level.

If you start one calculation for each site, or for distinct site ranges, then when a calculation completes a level, it must wait for the calculation that takes the longest to complete its item list. If you have a site that has many more items on a given level, that creates many more orders, or if an SMP machine is being slowed by other unrelated processes, you can end up with temporarily idle calculations. The advantage of running calculations by distinct sites or ranges is that the audit reports print the planned items in the ranges you entered in each calculation.

Synchronized Code

Select the user-defined alphanumeric code that is shared by multiple, concurrent synchronized MRP/DRP calculations.

Synchronization codes distinguish a set of synchronized calculations. All calculations that are started with the same synchronization code write to the same coordinating work table. If a calculation is started with a different synchronization code, it will run without waiting for other calculations running the same time, and may cause locking problems and double processing. A blank synchronization code is valid.

Number of AppServer Threads

Enter the number of processing threads the Progress application server can use in starting agents for MRP/DRP processing during this session. This value defaults from MRP Control or DRP Control, depending on which module you are using.

When your system is configured to use an AppServer for MRP/DRP processing, the system distributes the processing load across multiple processors to greatly reduce the amount of time needed to run the application. When a thread completes planning for a given level, the program reuses the existing thread for the next level. This process continues until all items are planned.

Depending on the load on the system at the time you run MRP/DRP, you can update the number of AppServer threads that the AppServer can use to distribute the processing load. For example, when you know that other processing-intensive activities are not being run, you can increase the number of threads, allowing the system to improve MRP performance by applying more resources.

Schedule Update from MRP

Schedule Update from MRP locates all planned orders for the selected items and schedules quantities and dates using scheduled order parameters. MRP planned orders for a co-/by-product or a base process item cannot be used to update supplier schedules.

Note Supplier scheduled orders generated via the trade sales flow cannot be used in this function to generate supplier shipping/planning schedules.

Creating Releases

To create supplier schedules automatically from MRP data, run **Schedule Update from MRP** after creating a scheduled order and distributing percentages for the items among multiple suppliers.

Note Subcontract supplier scheduled orders are not processed by this report. You must run **Update Subcontract PO from Production** to generate releases for supplier scheduled orders.

To create scheduled releases manually, enter scheduled orders, then enter specific due dates and quantities in **Supplier Scheduled Orders**.

No matter how the release is created, you can now modify it in Schedule , send it to your supplier, and repeat this process on a daily or weekly basis with updated requirements.

Adjusted Dates and Quantities

Schedule Update from MRP takes planned orders from MRP and distributes the requirements among suppliers using the percentages in **Supplier Scheduled Orders**. Next, it looks at the scheduled order for that supplier and adjusts the due dates and quantities using the following calculations:

For due dates:

1. Back-schedules for safety days from the planned order due date.
2. Back-schedules for Ship/Delivery Pattern from the safety day schedule. This may split the delivery—half Monday and half Wednesday.
3. Back-schedules for Supplier Calendar from the ship/delivery date.

For quantities:

1. Revises net required (open, not scheduled) quantities to Standard Pack Quantity multiple.
2. Displays any unfulfilled prior cumulative requirements.
3. Displays fabrication and raw authorizations quantities and start and end dates.

The quantity ordered displays in the MRP Demand column of the report.

Replacing Schedules/Supplier Time Window Processing

Each time you run **Schedule Update from MRP**, all or part of the schedule is replaced. If Firm Days in **Supplier Scheduled Orders** is set to 0, the schedule is replaced with current requirements. MRP treats this type of schedule as it would planned orders—if Firm Days is nonzero, requirements within the firm time fence are not changed. MRP treats this part of the schedule as it would firm planned orders—these are considered scheduled receipts. Outside of this period, the schedule is replaced. If there is any new requirement that falls within the firm time fence, the work order is not processed and the warning displays.

Schedule Bucketing

Depending on Schedule Days, Schedule Weeks, and Schedule Months in the scheduled order, the requirements may be grouped in weekly or monthly buckets or truncated to fit the supplier’s planning horizon. The number of daily buckets may be adjusted so that weekly and monthly buckets start on Mondays.

With the Report Detail/Summary field set to Detail, the calculation prints an audit trail. Always set Update to cleared and preview the report before creating releases.

Effective Dates

The system determines whether a scheduled order line is active before assigning demands to the schedule release that it creates for the order or supplier. If the planned order is outside of the scheduled order line effective date range, the system:

- Excludes the planned order on the schedule release
- Displays the excluded planned order and a message indicating the order is not active
- Displays the demands for the excluded order

Scheduled orders have both header and line start and end effective dates. When processing the order, the system uses the line start date and the later of the header or line end date as the active order line date range.

Zero Schedules

If there is no demand for an item, the system creates a zero-quantity schedule to inform suppliers that an item is not needed. You specify the number of zero schedules to produce in the Zero Schedules field in **Supplier Schedule Control** and **Supplier Scheduled Orders**.

The system creates zero schedules when you run **Schedule Update from MRP** when:

- The prior schedule has zero net requirements.
- MRP % specifications exist in **Supplier Scheduled Orders**.
- The number of zero schedules sent by the system does not equal the number specified in **Supplier Scheduled Orders**.

Note The system count of zero schedules does not include zero schedules you manually create.

Previous Quantity

The report output includes the quantity of the previous active release. The system uses this value to calculate the variance between the active release and the previous active release.

Previous Quantity is 0 when:

- There is no previous active release.
- There is no previous active bucket.
- The interval of the previous active bucket is not equal to the interval of the active bucket; for example, Monthly (Previous) = 1000, while Weekly (Active) = 250.

Corrections

When you run **Schedule Update from MRP** by mistake, you can use **Supplier Scheduled Releases** to either modify the release or reactivate a previous release. All releases are maintained on the system, identified by their Release ID.

Supplier Performance

Supplier performance data can be collected automatically when you run **Schedule Update from MRP**. When the function collects supplier performance data, only *missed* shipment events are generated. When any overdue quantity exists on the prior schedule as a new schedule release is generated, that quantity is moved to the cumulative required portion of the schedules, and is presented as a missed shipment. A missed shipment event is automatically created.

Settings

For more information about running reports, see Reports on page 296.

Filters

Purchase Order

Enter the customer purchase order for this function to consider.

Item Number

Enter an item number to filter criteria.

Site

Enter the site for this function to consider.

Supplier

Enter the address code that uniquely identifies a specific supplier—pointing to their name and address, and the supplier data and credit information applicable to this name and address. This is the supplier associated with the purchase order.

Planner

Enter the planner code to filter criteria. This is an optional code identifying the person responsible for planning the manufacture of the item.

Include MPS/non-MPS Items

Specify whether this function includes master production schedule items or items not on the master production schedule.

Include GRC Items

Specify whether this function includes GRC items.

Generate Planning Schedules

Specify whether to generate planning schedules for this release.

This function generates planning schedules for each scheduled order line item that meets the selection criteria when you set this field and specify to Update. Also, the schedule week or months must have a nonzero value for the applicable order line before this function can generate planning schedules.

You must generate either a planning schedule or a shipping schedule. When Generate Shipping Schedules is cleared, the value for this filter must be selected. Planning schedules can be generated and used individually, or they can be generated and used in combination with shipping schedules.

This field cannot be updated when Enable Shipping Schedule is cleared in **Supplier Schedule Control**.

When Generate Shipping Schedules is cleared in **Supplier Schedule Control** and this filter is selected, item requirements for the number of schedule days specified on applicable scheduled order lines are loaded into planning schedules rather than shipping schedules. These requirements display in daily requirement buckets on each planning schedule.

Generate Shipping Schedules

Select this option to generate shipping schedules for this release.

This function generates shipping schedules for each scheduled order line item that meets the selection criteria when you set this filter to selected and specify to Update. Also, the schedule days must have a nonzero value for the applicable order line before this function can generate shipping schedules, and **Generate Ship Schedule From MRP** must be selected for the applicable order line.

This field cannot be updated when Enable Shipping Schedule is cleared in **Supplier Schedule Control**.

When all conditions are met, the system:

- Generates a supplier schedule to cover item requirements for the schedule days specified on each applicable scheduled order line.
- Divides daily shipping requirements into hour and minute buckets based on the SDT code and standard pack quantity specified for each scheduled order line.

You must generate either a planning schedule, or a shipping schedule. When Generate Planning Schedules is cleared, the value for this filter must be selected. Shipping schedules can be generated and used

individually, or they can be generated and used in combination with planning schedules.

When Generate Shipping Schedules is cleared and Generate Planning Schedules is selected, item requirements for the number of schedule days specified on applicable scheduled order lines are loaded into planning schedules rather than shipping schedules. These requirements display in daily requirement buckets on each planning schedule.

As of Date

Specify the beginning date for schedule releases generated by this run. The day before this date is stored in the Prior Cum Date field of each new schedule release generated. Schedule detail requirements will start on or after this date.

For scheduled order detail records with a positive number of firm days and an existing prior schedule, all firm detail requirements of the prior schedule before this date are summed into the Prior Cum Req field and deleted.

For all other scheduled order detail records, MRP planned order requirements before this date are summed into the Prior Cum Req field.

Calendar/Working Firm Days

Specify either Calendar (the default) or Working firm days, depending on how you want the system to interpret the number of days you set as Firm Days in **Supplier Scheduled Orders**. Orders within the Firm Day period are not replanned by MRP.

When set to Calendar, the system refers to the supplier calendar set up in **Supplier Calendar** . When set to Working, the system refers to the shop floor calendar set up in **Calendar** . Note that this is only relevant when Firm Days is set to a value greater than zero.

Report Detail/Summary

Specifies the level of detail to appear on this report. Detail prints a detailed report of each transaction selected on this report. Summary prints a report with transaction totals only. Detailed reports are normally used as audit trails or when investigating sources of errors. Summarized reports are useful when you just need a bottom line total.

Print Exceptions Only

Specify whether the system displays only exception messages or displays data for the entire scheduled order and schedules including exceptions. When selected, the system displays only exception messages. When cleared, all scheduled order data, schedules, and exception messages display.

Update

Select this option to run this program in update mode and change records in the database. When not selected, the system runs this program in report-only mode, without updating the database. A report prints for review with SIMULATION displayed at the top of each page.

Material Planning

You can trace the requirement for a particular end item to the forecast or sales order creating the demand and identify the specific parent item creating the need for a component item.

You can open a record that display material planning data for a specific item or initiate several material planning actions.

To select a record to view material planning data by item, from the Material Planning browse, select Open. The system displays the Main panel with item-site planning or item planning details.

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Co-/By-Products

In the **Materials Planning** hybrid browse, you can view co-/by-product data in the BOM/Formula or Base Process columns. You can also filter on co-/by-products by the base process.

Actions

From the Material Planning browse, you can choose the following actions:

- View MRP Detail Action on page 3398
- View Master Schedule Summary Action on page 3400
- Net Change Materials Plan on page 3375
- Selective Materials Plan on page 3380
- Regenerative Distribution Plan on page 3368
- Net Change Distribution Plan on page 3364
- Selective Distribution Plan on page 3370
- Production Scheduling Automation on page 3340
- Selective Master Production Supply Planning on page 3344
- Selective Production Order Smoothing on page 3347
- Selective Production Line Allocation on page 3350
- Selective Production Line Leveling on page 3353
- Gross Requirements Update on page 3433

Summary

Once you select a record from the browse and open it, the system displays a form. The Summary panel at the top displays the key data about the material planning record you working on, including the Item, Site, and Quantity on Hand. These fields are read only and stay in view, even when you scroll down the page.

Main

Main Panel Actions

You can view the following read-only fields from the Main panel:

Item

A code identifying an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits

Description 1

The primary item description set in **Items**.

Description 2

The second description line set in **Items** for extra or supplementary information on the item.

Site

A code identifying a valid site associated with the item.

Quantity on Hand

The amount in inventory of an item for the site you selected. Material Planning considers the nettable quantity on hand.

Master Schedule

Indicates that the item is master scheduled. Typically, master-scheduled items require human judgment to evaluate the schedule and its implications for capacity, material, cost, and customer service. Top-level items are normally master scheduled.

Planned Orders

Indicates that MRP created planned orders for this item. MRP calculates planned orders to meet planned future demand with a suggested order quantity and due date. Planned orders operate in combination with the Order Policy option. When Order Policy is blank, MRP does not plan this item, even when the Plan Orders option is selected in item data. When Order Policy is not blank and Plan Orders is selected, MRP plans the item. When a net requirement exists, MRP

creates a planned order to fill it. The quantity and due date of the order are determined by the order policy, lead time, and order modifiers.

MRP Required

This option is maintained by the system and indicates if an item must be replanned. The system selects the option when a change is made that affects order timing or quantity, including changes to planning data, inventory balance, product structure, purchase requisitions and orders, sales orders, work orders, master schedule, repetitive schedule, or forecast for the item.

Order Policy

The method of specifying the number and size of each MRP planned order. There are six types:

- Period Order Quantity (POQ). Generates planned orders to cover demands during a specified order period.
- Fixed Order Quantity (FOQ). Generates planned orders equal to order quantity.
- Lot for Lot (LFL). Generates a planned order to satisfy each demand.
- One-Time Only (OTO). Prototype items that MRP orders only once.
- Blank. Ignored by MRP.
- Gross Requirement Calculation(GRC): Generates planned orders for items that are typically replenished using Lean techniques such as Kanban, using a gross requirement calculation (GRC) of demand, without regard to inventory.

Order Quantity

The quantity for this item. Material Planning generates planned orders for this quantity when this item's order policy is fixed order quantity (FOQ). For manufactured items, order quantity also identifies the average order quantity of the item.

Order Period

MRP calculates demand for this item over the number of calendar days specified as the Order Period and creates one order to satisfy this demand.

Yield

The percentage of an order expected to be in usable condition. If Yield % is less than 100%, MRP plans orders for more than needed. For

example, if the net requirement is 100 and the item Yield % is 50%, then the planned order quantity is 200.

If an item's yield percentage is less than 100 percent, MRP may generate planned orders for fractional quantities. To prevent this, set Order Minimum or Order Multiple to 1, or any whole number.

Issue Policy

Issue Policy has different indications, depending on whether Production Orders functionality is installed:

- **With Production Orders not installed:**

  This field indicates whether this item should be issued on work order picklists.
  When selected, this item is issued to work orders. Requirements print on the work order picklist, and Work Order Component Issue and Work Order Receipt-Backflush record the number of items issued.
  When not selected, this item is not issued to work orders. Requirements print on a different section of the work order picklist under the heading Floor Stock.
  Issue policy is typically not selected for expense or bulk issue items. When a work order or cumulative order is processed by the accounting close function, the cost of any floor stock items is debited to WIP and credited to the Floor Stock account specified on the order. The value entered in **Items** is used as the default for all sites. Set up site-specific values in Item-Site Planning Data.

- **With Production Orders installed:**

  Indicates how the system issues inventory quantities for the item to production, and whether they appear on functions such as Product Order Receipt, Operation Activity Transaction, and Production Order Component Issue.
  No Issue: Do not issue. Use this for expense items such as cleaning supplies that are not controlled in inventory with inventory balances, but are handled as floor stock. When a production order is processed by the accounting close function, the cost of such items is debited to WIP and credited to the Floor Stock account specified on the order.
  Direct: Issue Direct to Order. Use this to issue component items directly to a production order (as opposed to backflushed). Items with this issue policy are listed in Production Order Picklist Issue and Production Order Component Issue.
  Backflsh (default): Backflush. Backflush inventory for the item to a production order. Use this for production component items that are backflushed from inventory for a production order (operation). Items with an issue policy of Backflsh are displayed when you process a backflush transaction for a production order (operation)

using functions such as Product Order Receipt and Operation Activity Transaction.

Purchase/Manufacture

A code indicating how this item is typically processed by the system. The Purchase/Manufacture code controls how the system explodes forecasts, plans and creates orders, and calculates costs for the item. It affects Material Planning (MRP) and Distribution Requirements Planning (DRP).

Buyer/Planner

A code identifying the person responsible for planning and ordering this item. This field is validated against predefined values entered in **Generalized Codes** for pt_buyer, if any.

Minimum Order

The minimum quantity of this item to be ordered on a single order. MRP uses the minimum order quantity to determine the quantity of planned orders, regardless of the order policy. If the net requirement is below this amount, MRP creates an order for the minimum quantity. If an existing order is below this minimum, MRP creates an action message.

Time Fence

The number of calendar days inside which MRP does not automatically change a plan. For example, if an item has a time fence of 10 days, the system does not change existing firm planned orders or create new orders whose due dates lie within the next 10 days.

Safety Stock

The quantity of an item to be maintained in inventory as protection against fluctuation in demand and/or supply. Safety stock can also be the average amount of stock on hand when a replenishment quantity is received.

Safety Time

The quantity of this item maintained in inventory as protection against fluctuations in demand or supply. MRP processing considers safety stock a requirement, and schedules planned orders to cover this requirement.

Do not designate safety stock levels for non-master scheduled items because it may cause MRP to overplan inventory.

Inspect

Indicates whether item inspection is required.

Inspection Lead Time

The normal or average number of working days, based on your shop-floor calendar, needed to inspect this item after it is received. For

purchased items, MRP uses the purchasing and inspection lead times to determine the suggested release date for planned orders.

Purchase Lead Time

The normal or average number of calendar days required to complete a purchasing cycle for this item. The cycle begins on the date the need for a purchase is recognized and ends on the date the item is received. It does not include inspection time. For purchased items, MRP uses the purchasing lead time along with any inspection lead time to determine the suggested release date for planned orders.

Manufacturing Lead Time

The normal or average number of working days, based on your shop-floor calendar, required to manufacture this item. This includes the time to process paperwork, issue components, inspect the finished product, and receive it into stock. MRP uses manufacturing lead time to determine the suggested release date for planned orders.

Cumulative Lead Time

The longest possible length of time it takes to have an item/product available if you start today with no components in stock or production. For any item planned through MRP, lead time is found by reviewing the lead time for each bill of material path under the item, and taking the largest time.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

View MRP Detail Action

Select this action from the **Material Planning** hybrid browse to view MRP details for the item, based on specific start dates. You can view the source of demand for an item with the due date, item quantity, parent item number, and type of requirement—whether forecast, production forecast, sales order, production order, and so on.

To view MRP detailed data, begin by entering the Start Date; then select Search.

Two panels display:

- Item Planning: This panel displays many of the same display-only options as the Main panel of the Material Planning on page 3393 panel hybrid browse. Refer to the online help for that hybrid browse for more information.

- MRP Details: The system displays, in date order, all transactions for the item. Only dates that have transactions are displayed.

MRP Details Panel

Due Date

For a production order, the date a product is available for issue to a shop or shipment to a customer. For a purchase order, the date a product is due to arrive from a vendor. For a sales order, the date an order is due to ship.

Gross Requirements

The quantity of the specific demand. The demand could be independent, such as forecasts or sales orders, or dependent, such as a production order component.

Scheduled Receipts

The quantity of the supply order, such as a purchase or a production order due to be received on the due date.

Planned Orders

The quantity of the planned order which is not yet released, so not intended for receipt on the due date.

Projected Quantity on Hand

The inventory balance projected on the due date. The running sum of on-hand inventory minus gross requirements, plus scheduled receipts. In the display:

- If PQOH < Safety Stock, the background color is yellow.
- If PQOH < 0, the background color is red.

Details

The detail information of the demand or supply order. The system always displays the Beginning Available in the first row, which means the PQOH is always on the due date. For other lines, it displays different text based on the order. For example, for a production order, the system displays the order number, ID, and status. For a sales/purchase order, it displays the order number and line. For a forecast, it displays just the forecast.

You can open a record that display material planning data for a specific item or initiate several material planning actions.

To select a record to view material planning data by item, from the Material Planning browse, select Open. The system displays the Main panel with item-site planning or item planning details.

View Master Schedule Summary Action

Select the View Master Schedule Summary action from the **Material Planning** hybrid browse. When you do, the following panels display:

- Summary: Displays the read-only information, including the item, item description, site, quantity on hand with inventory UM, ATO quantity for today (when today is not included in the horizon, this field is hidden), and the horizon start and end date.
- Main: Lets you set search criteria to filter data that displays in the grid.ain: Lets you set search criteria to filter data that displays in the grid.**ain: Lets you set search criteria to filter data that displays in the grid.**.
- Master Schedule Summary: The master schedule summary grid displays summary information; for some categories, you can drill down into supply/demand details.

Main

Enter the following search criteria, then click Search to display data based on the selection

Start Date

Enter the start date for data to display in the grid. This is the current week as the start date in the Summary Default data in **Planning Control**.

End Date

Enter the end date for data to display in the grid. The End Date is auto calculated based on the start date plus the horizon duration. (The logic is the same as that used in the Horizon End Period in Production Scheduling Automation.) When you enter a date here, the system changes the horizon duration to the days option and auto calculates the horizon duration value based on the start and end dates.

Horizon Duration

Enter the horizon duration to display data in the grid. The value defaults from the horizon duration value in the production scheduling automation setup in **Planning Control**. Select from days, weeks, months, or GL period. Days, weeks, and months are calendar periods, while the GL period is determined by the GL period setup.

Show Negative ATP

Select to display negative quantities resulting from the available-to-promise (ATP) calculation.

Master Scheduled Summary

Use the options in this panel to filter the data that displays in the grid

Note You must select at least one of the summary options; otherwise, the system displays an error.

Daily/Weekly/Monthly Summary

Specify a value that indicates the length of each column period in the grid. Values can be Day, Week, Month, or GL Period. Summary information is displayed in columns with one column per time period. All activity before the start date of the report is summarized and printed in the first column under the label **Past**.

Note

In some situations, it can be useful to review information by month. To do this, set the Start Date and the column duration to month.

Show Non-working Days.

Select to display non-working days in the grid.

Start/End Date

The loaded data horizon is based on start/end date criteria you selecte

Viewing

Displays the data in the current page.

Grid Data

The grid displays multiple categories of master schedule summary type information. Horizon information can display in multiple pages, based on the Start/End dates you entered. A

Use the left/right arrows to page up or down. The current page position of the total horizon also displays.

bove the grid, you can select View Supply/Demand Details to view more data for only production forecast, sales orders, gross requirements, and the master schedule.The grid displays the following information:

Production Forecast

Displays the system-calculated forecast used in multilevel master scheduling.

Forecasts

Displays the estimate of future demand for the quantity of an item.

Sales Orders

Displays the demand derived from confirmed sales orders and required ship schedules.

Gross Requirements

Displays the sum of an item’s requirements from forecasts, higher-level products, confirmed sales orders, required ship schedules, service

items, and intersite orders generated by DRP. Gross requirements do not consider inventory on hand or scheduled receipts.

Master Schedule

The total scheduled receipts for an item from work orders, repetitive schedules, purchase orders, and distribution orders.

Projected QOH

The system-calculated projected item quantity on hand. This is a projection by period of an item's on-hand balance plus scheduled receipts minus gross requirements.

Available to Promise

Displays the uncommitted portion of inventory or planned production, maintained in the master schedule to support customer order promising. ATP quantity is the uncommitted inventory balance in the first period and is normally calculated for each period in which a Master Production Schedule (MPS) receipt is scheduled.

Cumulative ATP

Displays the cumulative quantity of uncommitted inventory and planned production available to fill an order. When ATP Enforcement is selected in **Sales Control**, the system compares the order-line quantity and due date with the cumulative ATP to ensure that the quantity promised is available by the due date.

Seasonal Build

For products with seasonal demand cycles, you may need to build up inventory before periods of peak demand. You can do this using production orders, or you can use seasonal build requirements to build up inventory to a predetermined level before its expected demand.Seasonal build requirements let master schedulers specify a target inventory level for seasonal demand items that is not included when calculating ATP quantities, but can still be allocated and shipped on sales orders and customer schedules. Seasonal build quantities appear separately on master schedule reports that display ATP quantities.

View Supply/Demand Detail

Select to open a record in this browse to view more details, including the production forecast, sales, gross requirements, and master schedule receipts. Two panels display:

- Summary: Displays the read-only item, description, site, MRP quantity, UM, and MRP type.
- Main: Displays the read-only item, description, site, quantity, due date, MRP type, and supply/demand type.

Master Schedule Summary background colors can change in the data that displays for the following conditions:

- If PQOH < 0 or ATP < 0, the background color is red.
- If PQOH < Safety Stock, the background color is yellow.

View Material Plan Summary Action

Once you select a record or multiple records in the **Material Planning** hybrid, select the View Material Planning Summary action to view material planning summary information for one item at a site. The form consists of the following panels:

- Summary displays read-only information, including the item and description, site, QOH with inventory UM, and the horizon start and end dates.
- Options lets you set search criteria to filter data that displays in the grid.
- Additional Criteria lets you specify additional search criteria to display in the grid, including the type of quantity (QOH, projected, and so on), the type of item (manufactured, GRC, and so on), and whether the system includes forecast when calculating total demand for projected quantity on hand (PQOH)/projected available balance (PAB).

  Note You can view co-/by-product data, including base process data, in this function.

Options

Enter the following search criteria, then enter data in the Additional Criteria panel or click Search to display data based on the selection. You can also select Reset Criteria to remove your selections and return the options to defaulted data.

Start Date

Enter the start date for data to display in the grid. The default is the current week in **Planning Control**.

End Date

Enter the end date for data to display in the grid. The End Date is auto calculated based on the start date plus the horizon duration. (The logic is the same as that used in the Horizon End Period in Production Scheduling Automation setup.) When you enter a date here, the system changes the horizon duration to the days option and auto calculates the horizon duration value based on the start and end dates.

Horizon Duration

Enter the horizon duration to display data in the grid. The value defaults from the horizon duration value in the production scheduling automation setup in **Planning Control**. Select from days, weeks,

months, or GL periods. Days, weeks, and months are calendar periods, while the GL periods are determined by the GL period setup.

Site

A code identifying a valid site associated with the item.

Additional Criteria

This panel displays additional search criteria. Most of the item types that you can select in this panel are specified in the Planning Panel of **Items**.

Display Quantity

This display option determines the value displayed on different dates in the horizon. Choose from the following:

- Projected QOH: The inventory balance projected on the due date. The running sum of on-hand inventory minus gross requirements, plus scheduled receipts; planned orders are not included. In the display, when:
  - PQOH is less than the safety stock, the background color is yellow.
  - PQOH is less than 0 (zero), the background color is red.
- Days on Hand: DOH represents the total number of days over which the projected available balance is sufficient to meet projected demand.
- Projected Available Balance: Quantity on hand projected into the future when scheduled receipts are rescheduled or canceled, and new planned orders are created as per recommendations made by the planning process. The system calculates it in the planning process as current and planned supply.

Include Forecast Demand

This option determines whether the system includes forecast demand when calculating PQOH or PAB.

Include Discrete Manufactured Items

Select or clear this checkbox as needed to determine if discrete manufactured items are considered by this function.

Include Line Manufactured Items

Select or clear this checkbox as needed to determine if line manufactured items are considered by this function.

Include Purchased Items

Select or clear this checkbox as needed to determine if purchased items are considered by this function.

Include Base Process

Select or clear this checkbox as needed to determine if co/by-product items are considered by this function.

Include Kanban Replenished Items

Select or clear this checkbox as needed to determine if kanban replenished items are considered by this function. Kanban items are defined in **Items** for use in the QAD kanban module.

Include GRC Items

Select or clear this checkbox as needed to determine if Governance, Risk Management, and Compliance (GRC) items are considered by this function. GRC aims to synchronize information and activity across governance, risk management, and compliance to operate more efficiently, promote information sharing and effective reporting, and avoid overlaps.

Include Routable Items

Select or clear this checkbox as needed to determine if routable items are considered by this function. A routable item is a special type of manufactured item, made only when needed by an upper-level assembly.

Include MPS Items

Select or clear this checkbox as needed to determine if non-MPS items are considered by this function.

Include non-MPS Items

Specify whether to include non-Master Production Schedule (MPS) materials in the grid.

Include Phantoms

Select or clear this checkbox as needed to determine if phantom items are considered by this function. When an item and its product structure are phantoms, typically they are used for transient assemblies or intermediate products.

Material Planning Summary

Use the options in this panel to filter the data that displays in the grid.

Note You must select at least one of the summary options; otherwise, the system displays an error.

The following options are in addition to options shown in the Master Schedule Summary:

Show Shortage Item

Specify whether the data displays items that currently have a shortage in the grid.

Start/End Date

These are the read-only horizon start date/end date that you specified.

Viewing

Shows you the date range that you are currently viewing, and the number of pages total to view.

Grid Data

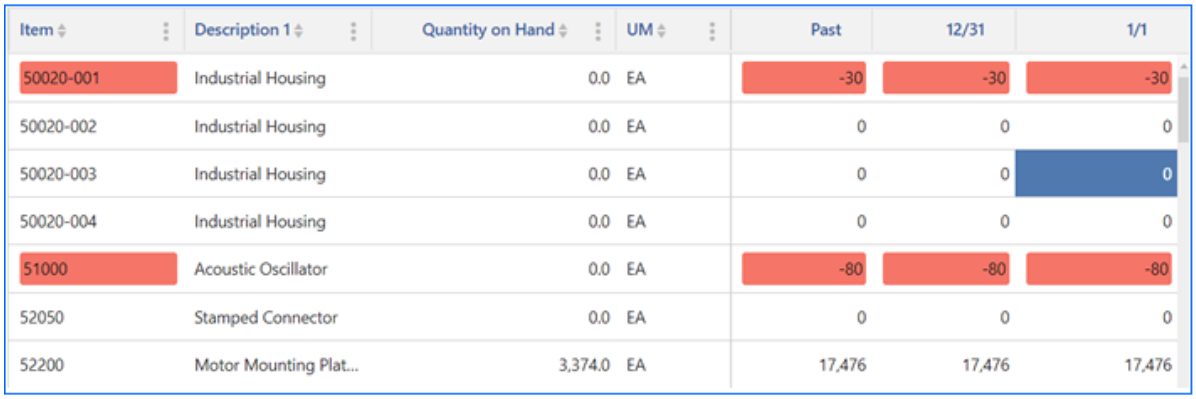
The grid displays multiple items with additional information. The values are controlled by the selections you made in options in this form.

There are two ways to page through data: page horizontally by dates or page vertically by items.

When a day's PQOH/PAB is less than 0 (zero), the system displays the item in red and marks it as a shortage item.

The left grid contains the item, descriptions 1/ 2, QOH, UM, purchase/ manufacturer, buyer/planner, and item type. In default view, the system only displays item, description 1, QOH, and UM; other fields are hidden. You can choose to view the hidden values by selecting a view other than the default view. The right grid shows the horizon duration that you selected.

When the PQOH/PAB is less than 0 (zero), the color displays as red. When the PQOH/PAB is less than the safety stock, the color displays as yellow.



Item	Description 1	Quantity on Hand	UM	Past	12/31	1/1
50020-001	Industrial Housing	0.0	EA	-30	-30	-30
50020-002	Industrial Housing	0.0	EA	0	0	0
50020-003	Industrial Housing	0.0	EA	0	0	0
50020-004	Industrial Housing	0.0	EA	0	0	0
51000	Acoustic Oscillator	0.0	EA	-80	-80	-80
52050	Stamped Connector	0.0	EA	0	0	0
52200	Motor Mounting Plat...	3,374.0	EA	17,476	17,476	17,476

View Master Schedules Action

Select the View Master Schedules bulk action from the **Master Schedules** browse. Use this action to view the production line capacity or adjust the capacity to match production requirements. Planners and schedulers can also view supply and demand summary or detail information to help balance supply and demand.

The action consists of the following panels/subpanels:

- Options: Lets you set date, horizon, site, and product line data to view master schedule data.

- Criteria: Lets you set search criteria to filter data that displays in the Master Schedule panel's grids. Contains a subpanel to set additional criteria.
- Master Schedules: Lets you set period criteria, non-working days, shortage items, capacity, and other viewing criteria for the grids that display in the Capacity, Schedules, and Supply & Demand subpanels.

Options

This panel includes the following options, which you can update:

Start Date

The summary default start date from **Planning Control**.

End Date

The end date is auto-calculated based on the start date plus the horizon duration. The logic is the same as with Production Scheduling Automation's horizon end period. When you manually enter the End Date, the option changes the horizon to the days option.

Firm Horizon End Date

This is the horizon end date to view all firmed orders (F/E/A/R) and shortage item status. This is useful when you view data with a long planning horizon, but a shorter firm horizon. The firm horizon start date is the same as the horizon start date. The firm horizon end date defaults from the production line period end date. You can edit the date.

Horizon Duration

The horizon duration defaults from **Planning Control**; this is the production scheduling automation setup horizon duration.

Site

The site defaults from search criteria you set in the Master Schedules browse search criteria. (Note: you must Equals in the search filter for the site to default). The option can be blank; however, you must enter the site before you click the Search button in the Criteria panel to display data in the grids.

Production Line

The production line defaults from the Master Schedules browse search criteria. (Note: you must Equals in the search filter for the production line to default). The option can be blank; however, you must enter the production line before you click the Search button in the Criteria panel to display data in the grids.

Criteria

Use the options in the Additional Criteria panel to filter the data that displays in the grids in this action. Select the criteria checkboxes to include the data in the grid displays.

The following topics describe important criteria. Additional options control the types of items to include in the search.

Click the Search button to display data in the grids. Criteria option updates are only effective when you click Search. When you click Search, then update the options again, they do not take effect until you click Search again.

Click Reset Criteria to set new criteria for the grids.

Include Forecast Demand

Select to include forecast and production forecast when calculating the total demand for PQOH/PAB.

Include Active Items Only

Select to view items that have supply, demand, production orders, or inventory activity within the horizon. When not selected, the search displays data for all items without supply, demand, production orders, or inventory activity.

Include Planned Orders in Firm Horizon

Select to include planned orders in the schedule grid summary within the firm horizon; do not select to exclude planned orders. This option impacts the capacity calculation; therefore, even when you do not select specific item data to display, this option applies to all items. The firm horizon always includes planned orders.

Default Calculate Capacity

When checked, the system calculates the capacity and displays the data in the Capacity grid when you click the Search button. When not selected, the Capacity grid is blank. You can click the Refresh Capacity button above the capacity grid.

Master Schedules

Set criteria in this panel for data to display in the Capacity, Schedules, and Supply & Demand grids.

Daily/Weekly/Monthly Summary

The duration UM has four options: days, weeks, and months, which are regular calendar-based increments, and GL period, determined by the GL period setup. You should select at least one summary option.

The Weekly/Monthly/GL Period summary can only cover partial period data as the horizon is not from the beginning of the summary to the end of the summary. For example, the horizon start is from 1/15, so the January monthly summary is from 1/15. The system marks January with an asterisk.

Show Non-Working Days

Select to display non-working days in the grids.

Show Shortage Items Only

Select to display items that have a shortage in the firm horizon. Selecting this option considers additional options: Include Forecast Demand and Include Planned Orders.

Consume Prior Days Remaining Capacity

When selected, the Capacity grid cells display with yellow shading when the system uses available capacity from prior days to satisfy the required capacity. Red shading indicates that there is not enough available capacity on or in days prior to the required capacity date. Today's remaining capacity considers all past due required capacity.

Start/End Date

Displays horizon start and end date data. This is the date data set in the Options panel. To view data in the grids, click the left/right arrow to page up or down in the displays to see all data for the dates. The display also shows the current page position of the total horizon.

The three grids in this panel share the same control options and horizon paging information. For example, when you click next/previous page, all three grid pages turn at the same time; when you select weekly summary, they all show weekly summary columns. And they have the same date columns displayed; for example, when the current viewing horizon is from 1/1 to 1/8, then all grid date columns display data from 1/1 to 1/8.

The Horizon columns are fixed at 14 to show date information. When the horizon is less then 14, the remaining horizon is hidden; when greater than 14, the columns show the remaining dates in the next page.

Capacity Grid

The capacity grid displays four types of capacity data:

- *Remaining capacity* is the capacity left after being consumed on that day, either consumed by the orders on this day or consumed by future orders .
- *Planned capacity* is the capacity planned on the calendar on that day. Any date before today has zero planned capacity. Planned capacity on today or after today is considered as available capacity and can be consumed by later date orders when the capacity calculation method is set to Consume Prior Days Remaining Capacity. Note that even these dates are before the horizon start date.
- *Required capacity* is the capacity required to complete all orders on that day. Usually, it considers production run rate and setup from the orders. For co/by-products, it only considers the base process order. The system always uses the quantity process method to calculate the open quantity which is calculated as: .

  Qty to Start - Qty Completed - Qty Scrapped.

When an order has any completed quantity, scrapped quantity, or WIP processed, it should be regarded as a work in process order and the setup time is ignored

- *Cumulative capacity* is the remaining capacity accumulated from the first horizon day until this day.

Capacity Grid Buttons and Colors

- For color coding, see the description for the Consume Prior Days Remaining Capacity button.
- Refresh Capacity button: Click when you update Schedule Grid records to refresh capacity data.
- Edit Exceptions button: Click to display a window to modify loaded resource capacity. The window contains exception data in grids, including calendar exceptions. The loaded resource can use a different level calendar based on the calendar setup. The priority is: Production Line Calendar > Site Calendar > Domain Calendar. The calendar exception automatically locates the same calendar as the loaded resource and saves the changes to the corresponding calendar. The Edit Exception button is disabled when there is no capacity data loaded. You should click Refresh Capacity first.

  The Calendar Exception summary displays the domain when the calendar is a domain calendar; it displays the production line with description when the calendar is a production line calendar. The Exceptions panel has the same UI and function as standard calendar exception. When an exception record falls in the master schedules horizon, the grid displays the data.

Schedules Grid

The Schedules grid displays multiple items with additional fields for Item, Description 1, Description 2, Qty on Hand, UM, Purchase/Manufacture, Buyer/Planner, and Item Type.

For the firm horizon, when an item's projected on hand is less than zero, the system displays the item in red and marks it as a shortage item. The projected on hand considers whether to include forecast demand and planned orders.

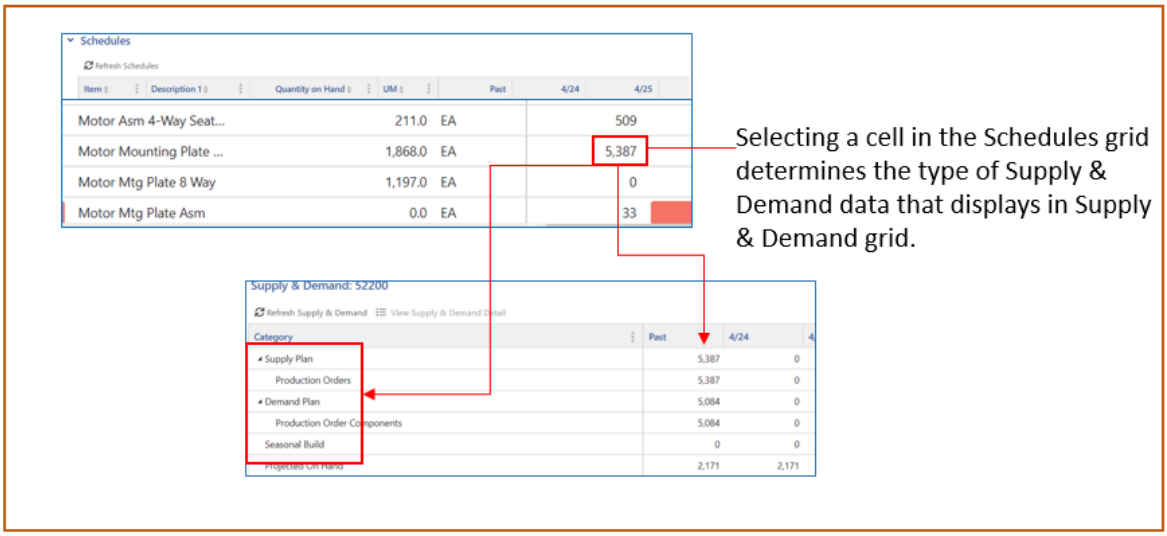
Base process items never have a shortage. When the date of the projected on hand is less than zero, the system marks the date in red. When the date of projected on hand is less than the safety stock plus the seasonal build but greater than zero, the system marks the date in yellow.

You can use the drill-down link to view production order details and make necessary changes when you have the appropriate access. After modification, use the Refresh Schedule grid button to view updates for the data.

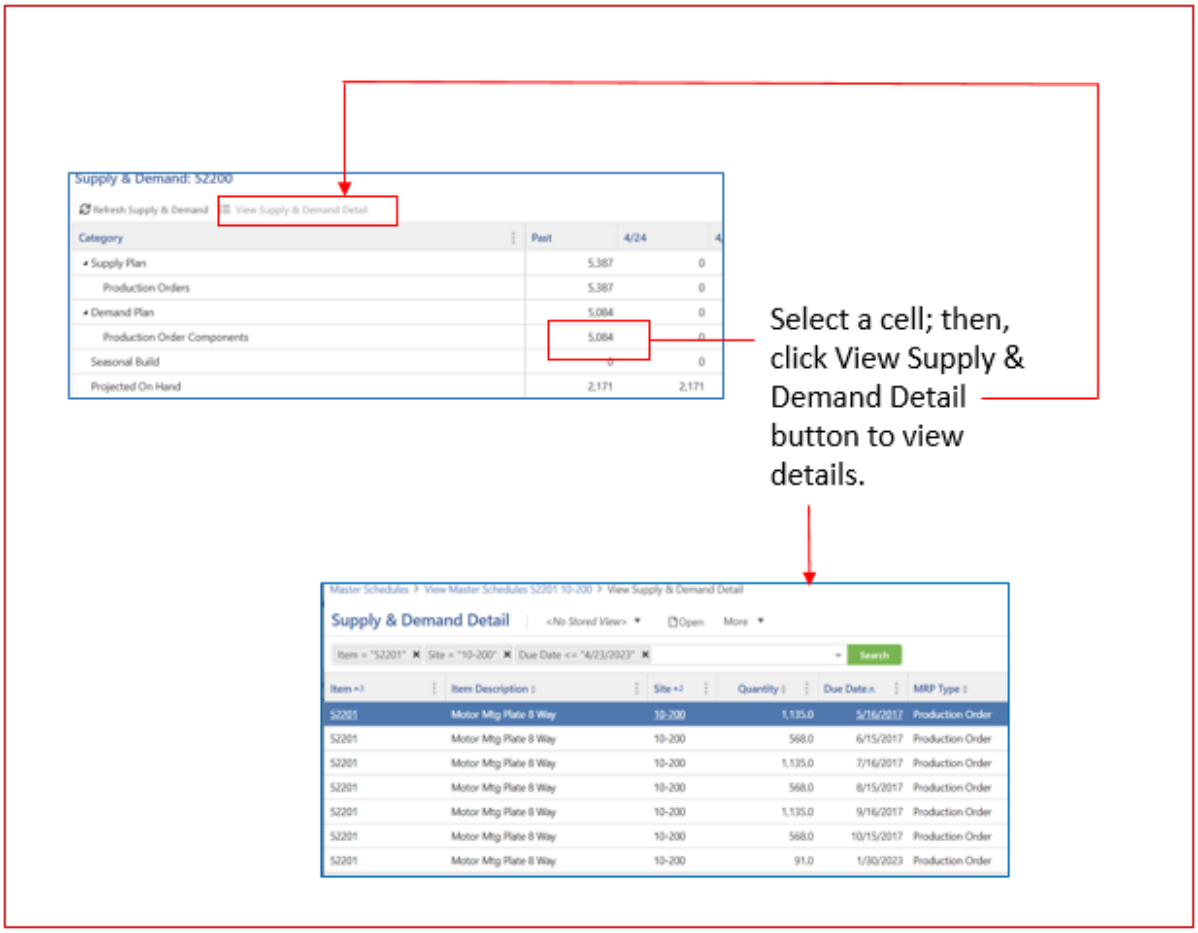
Supply & Demand Grid

The Supply & Demand grid works in conjunction with the Schedules grid. When you select an item in the Schedules grid, the Supply & Demand grid displays supply/demand information for that item. The data that displays in the Supply & Demand grid varies, depending on your Schedule grid item selection.

For example, when you select Option and Criteria data, then click Search, the system displays data in the Capacity, Schedules, and Supply & Demand grids. When you select an item in the Schedules grid, and then select a date cell, the Supply & Demand grid displays data related to your selection.



To drill down even further into Supply & Demand details, select the View Supply & Demand Detail browse button above the Supply & Demand Grid:



Note the following in the Supply & Demand grid:

- You can click on the Supply Plan and Demand Plan rows to view lower levels:
  - All types of demand except seasonal build display under Demand Plan; for example, planned orders and production orders are displayed under Demand Plan
  - All types of supply are displayed under Supply Plan.
- Projected QOH: The projected quantity on hand not including planned orders. Projected Available Balance includes planned orders. Both categories are impacted by the Include Forecast Demand option.

Supply & Demand Buttons and Colors

When PQOH/PAB < 0, the cell background color is red. When PQOH/PAB - Safety Stock - Seasonal Build < 0, the cell background color is yellow.

When applying a negative POH color indicator to co-/by-product orders, the system never applies the color to base process items since the POH of the base item is never negative.

Refresh Supply & Demand button: When Schedule grid records are updated, click to refresh grid data.

View Supply & Demand Detail: To view details for Supply & Demand Detail for the item selected, select a date cell and click the View Supply & Demand Detail button above the grid. Data including Item, Site, Due Date, MRP Type and Supply or Demand Type are automatically filtered in the browse based on the cell selected.

Resources

Use the hybrid views in the Resources area to define key resources by site, resource capacity with reference codes, and the item resource bill. Master scheduling activities are feasible only when key resources are available. Rough-cut resource planning is usually done before committing production resources to a plan. You must define resources before you can evaluate resource load.

Use the functions in Resources on page 3414 hybrid view to define key resources by site and resource capacity with reference codes. Once resources are defined, you create item resource bills in **Resources**. You use item resource bills to edit the bills created in the **Resources** function.

Resource bills help you compare the resource capacity needed for production against the available capacity. A resource bill indicates the amount of each key resource required to manufacture one unit of that item, how many days are required to produce the item, and how many days the resource is needed before the start of production. When you need more of any resource than you have available, you must change the plan or increase the resource capacity.

Resources

Master scheduling activities are feasible only when key resources are available. Rough-cut resource planning is usually done before committing production resources to a plan. You must define resources before you can evaluate resource load.

Use this function to first identify key resources in your company and define resource capacity by reference codes. Examples of key resources include specialized labor, special machinery, or cash. Capacity is expressed in the resource unit of measure (tons, hours, and so on.).

Resource capacity changes over time. For example, another machine or shift is added, or downtime and holidays are scheduled. These changes are recorded with a reference, along with Start and End Dates and other data.

Item Resource Bill Overview

Once you define key resources, you can then set up resource bills for items in this function. Resource bills help you compare the resource capacity needed for production against the available capacity. A resource bill indicates the amount of each key resource required to manufacture one unit of that item, how many days are required to produce the item, and how many days the resource is needed before the start of production. When you need more of any resource than you have available, you must change the plan or increase the resource capacity.

For example, to produce a case of ice cream, a blending machine processes 36 kilos of vanilla cream. In the resource record for the blending machine, capacity is expressed in metric tons. Therefore, the resource quantity per for the ice cream item resource bill is 0.036 tons.

The resource bill also determines when and for how long the resource is required. Lead Time (Days) identifies the number of production days the resource is required. Offset (Days) identifies how many days before production the resource is required. For the ice cream, the blending machine is used for one workday but the order for the ice cream must be released two days in advance of the requirement.

Note You can edit the item resource bills that you create here in .

Since resource requirements change over time, you can phase in changes using the Start Date and End Date. Calculations always use the resource bill in effect on the order's production date. Resource capacity changes are recorded in the grid with the item, start and end dates, resource quantity per, lead time, and offset days.

The system calculates the load for the day by summarizing the loads of all items. The system calculates the load of each item by order quantity multiples of the quantity per defined on the item resource bill. The order quantity equals the total quantity of all open orders, divided by the lead time.

For example, given the following criteria:

- Quantity is 100
- Due date is 1/7/2019
- Resource quantity per item is 4
- Resource should be available 1 day before order due date
- Resource requires 2 days

Then, the lead time should be set to 2 and offset to 1. As a result, the loads of 1/3/2019 and 1/4/2019 are both 200 (which is 100*4/2), and as 1/5/2019 and 1/6/2019 are non-work days, the load shifts to the prior work day.

Actions

Choose View Resource Load on page 3420to view details of a resource.

Resource Panels

This function includes the following panels:

- Summary on page 3416
- Main on page 3416
- Capacity on page 3416
- Item Resource Bill on page 3418

Resource Entry Screen Buttons

Save

Click to save new/updated data for the resource record.

Close

Click to close the resource record without saving.

Summary

The Summary panel displays the key data about the resource that you are working on, including the site and the resource code. These fields are read only and stay in view, even when you scroll down the page.

Main

On the Main panel, you can enter data for the following fields:

Site

Enter the site associated with the resource. You must have access to the site.

Resource

Enter the resource code.

Description

Optionally, enter a description for the resource.

Unit of Measure

Enter the unit of measure for the resource. The value is validated against **Generalized Codes**.

Capacity

Use the grid in this panel to set up a capacity record for the resource. The capacity of each resource is stated in terms of an average level per day over a certain time period. The capacity may change, perhaps for vacation plant shutdowns or adding a second shift. These capacity changes are identified by reference. The total capacity on any given day is the sum of the capacity components effective on that day.

For example, a machine resource has the following capacity levels:

- NORMAL Jan 1 to Dec 31 7 hrs/day
- SHUTDOWN Aug 1 to Aug 31 -7 hrs/day
- 2nd SHIFT Oct 1 to Dec 31 7 hrs/day

The total capacity on August 15 is zero, while the total capacity on October 15 is 14 hours per day.

Capacity Panel Buttons

For new capacity records, the following buttons display in the grid:

New Line

Click to enter a new resource capacity record.

Note When editing an existing line, the Next Line button displays in the grid.

Done

Click when finished entering or updating lines.

Details

Displays the same fields in the grid for edit, except the UM.

Cancel

Click to cancel without saving updates.

For updates to existing capacity records, the following buttons display above the grid:

New

Click to enter a new resource capacity record.

Edit

Click to edit the next line.

Delete

Click to delete the capacity record.

Reference

Enter a reference code that identifies a level of resource capacity, such as normal, vacation, or shutdown.

The first reference for each resource should be the base or average resource capacity. The total capacity for a resource on a specific date is the cumulative capacity from all of the references in effect on that date. The system uses the Site Calendar to determine the capacity.

Note You can use data in the Item Resource Bill panel, or in the Item Resource Load Summary and Item Resource Load Detail browses, to access capacity information for this time period on item resource bills that reference this code. Otherwise, the reference merely describes the resource capacity level for the specified time period.

Start Date

The first day this resource capacity becomes available.

Resource planning reports use this information to calculate resource load.

End Date

The last day this resource capacity is available.

Resource planning reports use this information to calculate resource load.

Capacity/Day

The average resource capacity available on each working day of the time period, stated in terms of the resource unit of measure.

Capacity/Day can be positive or negative. If the normal capacity for a resource is 100 hours per day, and you are planning a shutdown on May 10 and 11, you would enter it as: Reference Shutdown, Start Date May 10, End Date May 11, and Cap/Day -100. A resource's capacity on a specific date is the cumulative capacity from the references that are in effect on that date.

Resource planning reports use this information to calculate resource load.

UM

Enter the unit of measure for the resource.

Item Resource Bill

Use the grid in this panel to set up resource bills for items. Item resource bills are used only to evaluate the manufacturing schedule; they record information on resource requirements for individual items. For more information on item resource bills and their function in determining capacity, see the online help for .

Note You can use the Item Resource Load Summary and Item Resource Load Detail drill-down links in the Details subpanel to help evaluate the manufacturing schedule, which includes all types of manufacturing orders.

Item Resource Bill Panel Buttons

For new item resource bill records, the following buttons display in the grid:

New Line

Click to add a new line record.

Note When editing an existing line, the Next Line button displays in the grid.

Done

Click when finished entering or updating lines.

Details

Displays a form with the same fields as the grid.

Cancel

Click to cancel without saving updates.

For updates to existing item resource bill records, the following buttons display above the grid:

New

Click to enter a new item resource bill record.

Edit

Click to edit an existing item resource bill record.

Details

Displays the same fields in the grid to edit, except the site and resource, which are read only.

Delete

Click to delete an item resource bill record.

Item

The inventory item or family item associated with this resource bill.

Resource bills identify the required capacity and key resources needed to manufacture one unit of this item at this site.

Start Date

The first day this resource bill is effective. Start and end dates are inclusive. The ending date cannot be earlier than the starting date. One or both dates can be blank.

Resource bills are effective over a period of time. Start and end effective dates phase in changes in resource requirements as production processes or facilities change. Resource requirements are calculated using the resource bill in effect on the production date.

Note You cannot overlap dates for the same item in item resource bill records.

End Date

The last day this resource bill is effective.

Resource Quantity Per

The amount of this resource, stated in terms of the resource unit of measure, required to produce one unit of this item at this site.

The amount of each resource required to satisfy the master schedule is calculated by multiplying the resource quantity per by the scheduled order quantity, and summing the results. If the quantity required

exceeds available capacity, either capacity must be temporarily increased or the master schedule adjusted.

Rough-cut resource planning uses resource bills to verify the feasibility of the master schedule. It calculates resource requirements for master schedule work orders, MRP planned orders, repetitive schedules, and open work orders.

Lead Time

The number of work days for which this resource is required for production of this item at this site. Lead time must always be at least 1. If you leave it as zero, no load is calculated. Lead time and lead time offset determine when and for how long the resource is required.

Offset

The number of work days before the start of production that this resource is required. This number may be negative if the resource is not required until after production is completed. You can specify lead time offset for a machine that has a long setup time.

Drill Downs

Resource Load Detail

Access the drill-down to view details of the resource load. Refer to the Item Resource Load Detail on page 3441 online help.

Resource Load Summary

Access this drill-down to view a summary of the resource load. Refer to Item Resource Load Summary on page 3443 online help.

View Resource Load Action

Use this action to view an item resource load summary that shows the available resource capacity and required resource capacity to meet scheduled production in daily, weekly, or monthly buckets.

The Action form includes two panels:

- Main panel: Contains key information that identifies a site and a resource number and lets you set up a start/end dates, the UM, and the horizon duration.
- Resource Load Summary panel: Contains a grid of item resource load summary data and options to specify a value for each column period.

Important Once you specify data in the Main panel, click Search to display data in the grid in the Item Resource Load Summary panel.

Main

Site

The site for the resource load.

Resource bills identify the required capacity and key resources needed to manufacture one unit of this item at this site. If the same item is produced at multiple sites, define a resource bill for each site. For more information on resource bills, refer to the Item Resource Bill on page 3418 panel in the Resources online help.

Resource

The resource required to produce this item at this site.

Resource codes identify your company's key resources, including people, machines, warehouse space, and cash.

Resource records are used for rough-cut capacity planning. For each resource, you can define resource bills (load profiles) that specify the amount of the resource required to manufacture a product line or an item.

Resource planning evaluates the feasibility of production plans and master schedules and identifies where adjustments are required.

If the production plan requires more machine capacity than you have, you must either decrease the production plan or add machines. Identifying the imbalance at this level allows you to adjust the plan before work is scheduled or customer promises are made.

UM

Specify the unit of measure for the resource. This is the duration UM that is based on regular calendars or based on the GL period setup.

Start Date

Specify the start date. The default is the MRP start date from **Planning Control**.

Note If you set the start date to a date earlier than today, the system prints a warning on the generated report, indicating that the start day is before today.

End Date

The last date to appear when the system displays load data in the grid in the Resource Load Summary panel. The system automatically calculates the end date based on the start date plus the horizon duration. When you manually enter the end date, the system changes the horizon to a day increment.

Horizon Duration

Specify the number for the duration, followed by the increment for the duration; for example, specify 6 as the duration, then weeks as the increment.

Item Resource Load Summary

You run **Item Resource Load Summary** after:

- The resource has been entered.
- Conversion factor and lead times have been set up.

The system calculates the load automatically using the scheduled end-item quantities and the Resource Qty Per entered in Item Resource Bill (refer to the Item Resource Bill panel in the Resources on page 3414 online help).

The grid displays:

- Resource capacity
- Required resource capacity (production load) to meet scheduled production, in daily, weekly, or monthly buckets, or GL calendar periods
- Load that is subtracted from capacity:
  - Over-capacity appears as a negative number in the Over/Under row.
  - Under-capacity appears as a positive number.

Once you specify filter criteria in this panel, such as daily or weekly summary, the grid's data automatically refreshes to show data in the new criteria.

Day/Week/Month/GL Period Summary

Specify a value that indicates the length of each column period. Values can be Day, Week, Month, or GL Period. The default is Week.

Information is displayed in columns with one column per time period. Each period summarizes activity for one or more days, weeks, months, or GL calendar periods. For example, if a weekly summary is selected, every week in the horizon is shown in the schedule grid in a calendar week.

Show Non-Working Days

Select this checkbox to have the system display non-working days in the grid.

Start/End Date

Displays the start and end dates based on Horizon header settings. Click the left/right arrows to page up or down. You can also see the current page position of the total horizon.

Resource Detail

Resources must be defined before you can evaluate resource load. Resources are used for rough-cut capacity planning. For each resource, you can define resource bills that specify the amount of the resource required to manufacture a product line or item.

Resource planning evaluates the feasibility of production plans and master schedules and identifies where adjustments are required. If the production plan requires more machine capacity than you have, you must either decrease the production plan or add machines. Catching the imbalance at this level allows you to adjust the plan before work is scheduled or customer commitments are made.

Resource

Displays the resource.

Description

Displays the resource description.

Site

Displays the site associated with the resource.

Unit of Measure

Displays the unit of measure for this resource.

For a production resource, normally the unit of measure is hours. Other types of resources can have different units. For example, cash resources might be planned in thousands while machine resources might be measured by the number of cycles.

Reference

Displays the reference for the resource. This optional code identifies a level of resource capacity, such as normal, vacation, or shutdown.

Cap/Day

Displays the average resource capacity available on each working day of the time period, stated in terms of the resource unit of measure.

Start Date

Displays the first day this resource capacity becomes available.

End Date

Displays the last day this resource capacity is available.

Product Line Resource Bills

Product line plans are feasible only if key resources are available. Rough-cut capacity planning verifies resource availability prior to committing production resources. Product line resource bills defined in **Product Line Resource Bills** specify how much of each resource is required to make one unit of the production forecast. The resource amount is expressed in the resource unit of measure, such as tons, hours, and so on.

For example, to produce a case of ice cream, a blending machine processes 36 kilos of vanilla cream. In the resource record for the blending machine, capacity is expressed in metric tons. Therefore, the resource Quantity Per for the ice cream product line resource bill is 0.036 tons.

The resource bill also determines when and for how long the resource is required. Lead Time (Months) identifies the number of production days for which the resource is required. Offset identifies how many days in advance of production for which the resource is required. For ice cream production, the blending machine is used for one workday but the order for the ice cream must be released two days in advance of the requirement.

Review the **Product Line Resource Load Summary** and **Product Line Resource Load Detail** reports before committing resources to the production plan. If you need more of any resource than you have available, change the plan or increase the capacity of the resource.

The resource requirements change over time. New machines are installed or processes are improved. Record these changes using the Start Date and End Date fields. The system uses the resource bill in effect for the month of the planned production.

Note As production plans are stated by month, resource bills should also be stated by month.

Lead time must be at least 1. If you leave it as zero, no load is calculated.

Main Panel

Product Line

Specify the product line to which this resource bill applies. You can leave this field blank if the Resource Bill applies to all product lines.

You can use product lines to identify major item and product groupings. Resource bills identify the required capacity and key resources needed to manufacture one unit of the production plan for this product line at this site. Rough-cut capacity planning uses resource bills to verify the feasibility of the production plan.

You can use product lines to group items based on the production process, such as blow-molded and injection-molded items in the

plastics industry. Alternatively, you can use product lines to group items by application, such as raw materials, finished goods, and packaging.

Site

Specify the site to which this resource bill applies. This field is mandatory.

Use resource bills to identify the required capacity and key resources needed to manufacture one unit of the production plan for this product line at this site. Rough-cut capacity planning uses resource bills to verify the feasibility of the production plan.

If the same product line is produced at multiple sites, a resource bill must be defined at each site.

Resource

Specify the resource required to produce this product line at this site. This is a mandatory field

Resources identify your company's key resources. Key resources include people, machines, warehouse space, and cash.

Resources are used for rough-cut capacity planning. For each resource, you can define resource bills that specify the amount of the resource required to manufacture a product line or item.

Resource planning evaluates the feasibility of production plans and master schedules and identifies where adjustments are required. If the production plan requires more machine capacity than you have, you must either decrease the production plan or add machines. Catching the imbalance at this level allows you to adjust the plan before work is scheduled or making customer commitments.

Start Date

Specify the start date, which indicates the first day this resource bill is effective. By default, the system assigns the current date.

The starting and ending effective dates are inclusive. The ending date cannot be earlier than the starting date and one or both dates can be left blank.

Resource bills are effective over a period of time. The start and end effective dates phase in changes in resource requirements as production processes or facilities change. Resource requirements are calculated using the resource bill in effect on the production date.

For the same resource, you can enter two or more bills of resource that have overlapping date ranges.

End Date

Specify the end date, which indicates the last day this resource bill is effective.

The starting and ending effective dates are inclusive. The ending date cannot be earlier than the starting date and one or both dates can be blank.

Resource bills are effective over a period of time. The start and end effective dates phase in changes in resource requirements as production processes or facilities change. Resource requirements are calculated using the resource bill in effect on the production date.

Quantity Per

The amount of this resource, stated in terms of the resource unit of measure, required to produce one unit of the production plan for this product line at this site.

Resource bills identify the required capacity and key resources needed to manufacture one unit of the production plan for this product line at this site. Rough-cut capacity planning uses resource bills to verify the feasibility of the production plan.

The amount of each resource required to satisfy the plan is calculated by multiplying the resource Quantity Per by the monthly production plan for each product line and site, and summing the results. If the quantity required exceeds available capacity, adjustments must be made—either by increasing capacity or reducing the production plan.

For example, a machine resource is measured in hours, while the production plan is expressed in thousands of dollars. If it takes two hours to produce $1,000 worth of a product line, the resource quantity for each unit would be two. Therefore, if the production plan in any given month is 20 ($20,000), the machine resource requirement would be 40 hours.

Lead Time (Months)

Specify the number of months over which this resource is required for production for this product line at this site.

Resource bills identify the required capacity and key resources needed to manufacture one unit of the production plan for this product line at this site. Rough-cut capacity planning uses resource bills to verify the feasibility of the production plan.

Lead time and lead time offset determines when and for how long the resource is required.

Lead time must be at least one day for the system to calculate resource load. Load is divided by the lead time to spread the load evenly over the lead time. If the resource is cash or warehouse space and lead time

is greater than one, increase the Quantity Per. If the resource is labor, do not increase the quantity.

For example, cash resources are required to purchase raw materials one month before production (Offset = -1). This cash is tied up in inventory or WIP until the product is sold, which happens two months after production is completed (Lead Time = 3). As a result, the system calculates a cash requirement that begins the month before production and lasts for three months.

Lead Time Offset

Specify the number of months before the start of production that this resource is required.

This number can be negative if the resource is not required until after the production is completed.

Resource bills identify the required capacity and key resources needed to manufacture one unit of the production plan for this product line at this site. Rough-cut capacity planning uses resource bills to verify the feasibility of the production plan.

Lead time and lead time offset determines when and for how long the resource is required.

Lead time must be at least one day for the system to calculate resource load. Load is divided by the lead time to spread the load evenly over the lead time. If the resource is cash or warehouse space and lead time is greater than one, increase the Quantity Per. If the resource is labor, do not increase the quantity.

For example, cash resources are required to purchase raw materials one month before production (Offset = -1). This cash is tied up in inventory or WIP until the product is sold, which happens two months after production is completed (Lead Time = 3). As a result, the system calculates a cash requirement that begins the month before production and lasts for three months.

Creating a Product Line Resource Bill

1. Go to **Product Line Resource Bills**.
2. In the toolbar, click the New button.
3. Complete the fields described above.
4. Click Save.

Modifying a Product Line Resource Bills

1. Go to **Product Line Resource Bills**.
2. Select the product line resource bill you want to modify and click Edit. Alternatively, double-click the product line resource bill.
3. Edit the applicable information.
4. Click Save.

Deleting a Product Line Resource Bill

1. Go to **Product Line Resource Bills**.
2. Double-click the product line resource bill you want to delete.
3. In the toolbar, click the Delete button.
4. A message appears prompting you to confirm the deletion. Click Delete.

Forecasts (Report)

Filter

The Filter panel contains key information that identifies an item number, site, product line, and date. You can also choose to display a summarized or detailed version of the report, and whether to include forecasted items only.

Item Number

The item that this forecast applies to. Item codes uniquely identify items or products—raw materials, purchased or manufactured intermediates, finished items, or packaging materials.

Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Forecasts are normally entered for any item or product subject to independent demand—from customer sales orders, service or support requirements, to production orders.

Forecasts may also be entered to account for spare requirements. Forecasts are often entered for planning items and configured products.

These forecast quantities calculate production-forecast quantities for items in the planning bill and product features and options.

Site

The site that this item forecast applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site or by groups of sites.

Usually, each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations such as stockrooms, inspection stations, or shop floors.

Prod Line

Product line codes identify major item and product groupings.

Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process. For example, in the plastics industry, there may be a product line for blow molded items and another for injection molded items. Product lines also group items by application; creating product lines for raw materials, finished goods, and packaging.

Date

The first date to consider on this report or inquiry.

Leave blank to begin with the first date on which transactions exist.

Summary/Detail

Specify the level of detail for the report generated by this utility.

Summary: Lists before- and after- linking effects on items, inventory sites, and source sites.

Detail: Lists before- and after- linking effects on items, inventory sites, source sites, and complete this-level or lower-level cost breakdowns.

Forecasted Only

Specify whether to include only manually forecasted items on this report.

If this field is set to Yes, items that you have entered forecasts for are listed on this report.

If this field is set to No, then all items that have any forecast information are listed.

This includes any items that have been entered on sales orders, since they have a quantity sold value, and any items that have a calculated production forecast.

Global Production

Filter

The Filter panel contains key information that identifies a family item, a site, and an effective year. You can choose a bucket and a unit of measure for the report.

Family Item

A code identifying a family item to select planning data for this report.

Site

A code identifying a site for selecting items to report.

Leave blank to begin with the first site matching the other criteria.

Effective Year

Specify a calendar year for operations planning.

The system selects information starting with this year. If you leave the year blank, the system selects planning data for all years.

Bucket

A code specifying the length of each reporting period to include.

Valid values are:

1. W (Week). This is the default value. The system displays production data for each week within the specified date range. This is not a calendar week; it is relative to the start and end dates specified. If you enter a start date, the system begins with that date and displays data in seven-day increments. If you enter only an end date, the system starts with that date and calculates backward to determine dates associated with weeks to be displayed.
2. P (Period). The system displays production data for each GL period included in the date range. This is based on the GL calendar. In a typical calendar setup, a period is equivalent to a calendar month. The output includes scheduled and completed production that took place anytime during a month included in the specified date range.

Unit of Measure

The unit of measure for displaying item quantities.

If you specify a unit of measure, the system converts item quantities to this unit of measure. For example, a quantity is either 5,000 cases (CS) or 10 tons (TN). If you set the unit of measure to CS, the quantity is 5,000. If you set the unit of measure to TN, the quantity is 10. If you

leave the unit of measure blank, the program shows quantities in the inventory unit of measure from the item master record.

Items are commonly stored and planned in different units of measure. For global planning, it is useful to display quantities in the family unit of measure.

Gross Requirements Update

This report updates you on the total independent and dependent demand for a component prior to netting of on-hand inventory and scheduled receipts.

Filter

The Filter panel contains key information that identifies a site. You can choose an order policy and a replenishment method to display. You can also choose whether to update the information.

Site

A code identifying a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Usually, each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Order Policy

The default is Gross Requirements Calculation (GRC), which aims to plan an item using LMP with gross requirements calculations for planning orders.

Lean Material Planning generates planned orders with an order quantity to replenish inventory that is consumed by each net requirement. It does not use any of the order modifiers, including order quantity, order multiple, minimum order quantity, and maximum order quantity. Material plans are created without regard to the beginning on-hand inventory balance or safety stock. The start date for a planned order is the date when a quantity is required, without regard to safety time. As with Kanban replenishment, the on-hand inventory balance acts as buffer stock and is assumed to be sufficient to cover demand for the item during the replenishment lead time; that is, the time it takes to supply the quantity required.

Replenishment Method

Specify the method to replenish inventory.

1. Kanban: Entering Kanban creates a Kanban record for the item. Kanban is a method of just-in-time (JIT) production that uses standard containers or lot sizes with a single card attached to each. It is a pull system in which work centers use a card to signal that items are to be withdrawn from supply sources. The Kanban system defines a communication signal or card indicating that items need replenishment.

2. Orders: MRP uses order due dates to determine when quantities will be available to replenish inventory.
3. Both

The default is Orders.

Update

Enter Yes to run this program in update mode and change records in the database.

Enter No to run this program in report-only mode, without updating the database.

The default is No.

Incorporation Planning

This report enables planning personnel to evaluate the impact on inventory of implementing a PCO on a given effective date.

Filter

The Filter panel contains key information that identifies a number, an ID, a domain, a site, and an effective date. You can also choose a cost method to use in this report.

Number

A code uniquely identifying a PCO or PCR; usually, the document number or drawing associated with it.

The combination of number, ID, and domain identifies a PCR or PCO.

ID

Enter an ID for the PCR or PCO.

Each PCR and PCO can contain records that define the engineering change in great detail.

The ID field allows multiple PCRs and PCOs to be created with the same PCR or PCO number for grouping purposes. ID can be used to break large or complex changes into several PCRs and PCOs.

When you open a PCR or PCO with a shared number but different IDs, the system displays a warning to remind you that related PCRs or PCOs exist.

You may want to break a large engineering change into many PCRs or PCOs to use appropriate approval cycles or to ease implementation.

Domain

Specify an optional domain name (in this or another database) to identify this PCR or PCO.

The Domain field is user defined and not validated. The system does not use it to perform any physical or logical linking to another domain.

Note PCOs can be exported from and imported into any domain, regardless of the value specified for the domain. The domain value is used to select records only.

Site

A code identifying a place where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

This is the site to check for the potential effects of the specified PCO.

Inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site or by groups of sites.

Usually, each site is split into multiple locations where the inventory is actually stored. You can think of a site as a group of physical locations such as stockrooms, inspection stations, or shop floors.

Effective Date

Specify the date for which to create this implementation planning report. The default is the system date.

The effective date is used to calculate the quantity on hand, quantity on order, projected usage, and value of the items that are effected by this PCO.

Cost Method (Current/GL)

Specify the cost set to use to calculate inventory values: GL or Current.

The default is GL.

Intersite Demand Summary

This report enables you to view a summarized record of intersite transportation of supply and demand.

Filter

The Filter panel contains key information that identifies sites from which and to which the items are shipped. You can also choose a ship date and transportation method.

Shipping

The site from which the items will be shipped, also referred to as the supplying site.

All intersite requests specify a receiving and at least one supplying site. A request may be filled by more than one site.

The quantity requested from this site represents an MRP demand on the supplying site and a source of supply at the receiving site. Normally, intersite requests are created by running DRP at the receiving site, but they may be maintained manually.

Ship-To

The site that has a requirement for the specified items.

This is the site where the items are to be shipped. When accessing transportation information, this is referred to as the receiving site.

Ship Date

The date on which the items are due to be shipped from the supplying site, and the due date used by MRP at the supplying site.

Ship date is used by planning at the receiving site, ensuring that the right materials are available when needed to satisfy intersite demands.

The required ship date on an intersite request is calculated based on a specified transportation ID. When a transportation code is entered, DRP ship date calculations use the lead time information and shipping schedules defined for this transportation code. Each transportation code may have a different load and unload time, and a different transport time between these two sites.

Specific shipping schedules may also be entered—shipments from site 2000 to site 1000 go out on Monday and Wednesday. If no transportation code is entered, DRP calculations use the average transport lead time entered on the source network.

Ship dates and transportation methods may be changed manually as schedules change.

Transport

An ID identifying a method of transport that can be used to ship items between sites such as truck, rail, or pipeline.

Each transportation mode is defined along with standard load and unload times to use for scheduling, freight rates to use for the cost of freight analysis, and load capacity to use for transportation load reports.

Individual shipping schedules and lead times may be established from one site to another for each mode of transport.

Inventory Plan

Filter

The Filter panel contains key information that identifies a site, a product line, and a year.

Site

The site that this specific inventory applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Product line plans may be entered for distribution sites, as well as manufacturing sites. At distribution sites, you are planning order backlog and inventory levels.

Prod Line

The product line code that this inventory relates to.

Product line codes identify major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process. For example, in the plastics industry, there may be a product line for blow molded items and another for injection molded items. Product lines also group items by application; creating product lines for raw materials, finished goods, and packaging.

Product line planning plans the level of production for a business, balancing the needs of marketing, finance, and manufacturing.

Each individual plan for each product line and site is added together and verified against the goals and resources of the whole company.

Year

The year that this inventory plan applies to.

The system maintains inventory plans by year, allowing you to keep historical information for developing future plans.

All reports and inquiries can be selected and sorted by year.

Item Resource Load Detail

This report shows the detail of the orders that are creating the load, and enables you to evaluate a manufacturing schedule, including all manufacturing orders.

Filter

The Filter panel contains key information that identifies a site and a resource number. You can set up a start date for this report, specify a value for each column period, and select the number of time periods for each column.

Site

The site that this resource bill applies to.

Resource bills identify the required capacity and key resources needed to manufacture one unit of this item at this site. If the same item is produced at multiple sites, define a resource bill for each site.

Resource

The resource required to produce this item at this site.

Resource codes identify your company's key resources; including people, machines, warehouse space, and cash.

Resource records are used for rough-cut capacity planning. For each resource, you can define resource bills (load profiles) that specify the amount of the resource required to manufacture a product line or an item.

Resource planning evaluates the feasibility of production plans and master schedules and identifies where adjustments are required.

If the production plan requires more machine capacity than you have, you must either decrease the production plan or add machines. Catching the imbalance at this level allows you to adjust the plan before work is scheduled or customer promises are made.

Start Date

The default is the system date.

Specify the first date to appear on this report. Information is displayed in columns, with one column per time period. Each period summarizes activity for one or more days, weeks, months, or GL calendar periods.

All activities prior to the start date of the report are summarized and printed in the first column under the label Past.

D/W/M/P

Specify a value for the length of each column period.

Values can be D, W, M, or P. The default is Week. Information is displayed in columns with one column per time period. Each period

summarizes activities for one or days, weeks, months, or GL calendar periods..

All activity prior to the start date of the report is summarized and printed in the first column under the label Past.

When displayed on the screen using an inquiry function, only the past activity plus six column periods display across the screen.

Press Next to review the next six periods of information. All previous periods are summarized and displayed in the first column as Past.

Press Previous to display the previous six periods. In some situations, it can be useful to review information by month. To do this, set the start date to the beginning of the month, Day/Week/Month to Month, and set Per Column to 1.

Per Column

The default is 1.

Indicate the number of time periods (days, weeks, months, or periods) to include in each column.

Information is displayed in columns, with one column per time period. Each period summarizes activity for one or more days, weeks, months, or GL calendar periods.

Item Resource Load Summary

You can run **Item Resource Load Summary** after:

- Resource has been entered.
- Conversion factor and lead times have been set up.

The system calculates the load automatically using the scheduled end-item quantities and the Resource Qty Per entered in Item Resource Bill .

The **Item Resource Load Summary** report displays the:

- Resource capacity
- Required resource capacity (production load) to meet scheduled production, in daily, weekly, or monthly buckets, or GL calendar periods
- Load that is subtracted from capacity:
    - Over-capacity appears as a negative number in the Over/Under row.
    - Under-capacity appears as a positive number.

The cumulative column displays the Over/Under quantity added to any over- or under-capacity from past planning periods.

This report also allows selection based on a range of over/under percentage. This can be useful to filter out very small over/under loads to focus on the serious capacity issues.

For each resource, you can define resource bills (load profiles) that specify the amount of the resource required to manufacture a product line or item.

Resource planning:

- Evaluates the feasibility of production plans and master schedules
- Identifies where adjustments are required

If the production plan needs more machine capacity, decrease production or increase machines. Catching the imbalance at this level allows adjustment of the plan before work is scheduled or customer promises are made.

Filter

Set the following filter criteria, as needed.

Site

Specify the site this resource bill applies to.

Resource bills identify the required capacity and key resources needed to manufacture one unit of this item at this site.

If the same item is produced at multiple sites, define a resource bill for each site.

Resource

Specify the resource that is required to produce this item at this site.

Resource codes identify your company's key resources. Key resources include people, machines, warehouse space, and cash.

Resource records are used for rough-cut capacity planning. For each resource, you can define resource bills (load profiles) that specify the amount of the resource required to manufacture a product line or item.

Resource planning evaluates the feasibility of production plans and master schedules and identifies where adjustments are required. If the production plan requires more machine capacity than you have, you must either decrease the production plan or add machines. Catching the imbalance at this level allows you to adjust the plan before work is scheduled or customer promises are made.

Start Date

Click the calendar icon to specify the first date to appear on this report.

The default is today's date.

Information is displayed in columns with one column per time period. Each period summarizes activity for one or more day, week, month, or GL calendar period. All activity prior to the start date of the report is summarized and printed in the first column under the label Past.

In some situations it may be useful to review information by month. To do this, set Start Date to the beginning of the month, Day/Week/Month/Period to Month, and Per Column to 1.

Note If you set Start Date to a date earlier than today, the system prints a warning on the generated report: "Start day is before today."

Day/Week/Month/Period

Specify a value that indicates the length of each column period. Values can be Day, Week, Month, or Period. The default is Week.

Information is displayed in columns with one column per time period. Each period summarizes activity for one or more day, week, month,

or GL calendar period. All activity prior to the start date of the report is summarized and printed in the first column under the label Past.

In some situations it can be useful to review information by month. To do this, set Start Date to the beginning of the month, Day/Week/Month/Period to Month, and Per Column to 1.

Per Column

Indicates the number of time periods (days, weeks, months, or periods) to include in each column.

The default is 1.

Information is displayed in columns with one column per time period. Each period summarizes activity for one or more Day, Week, Month, or GL calendar Period. All activity prior to the start date of the report is summarized and printed in the first column under the label Past.

In some situations it can be useful to review information by month. To do this, set Start Date to the beginning of the month, Day/Week/Month/Period to Month, and Per Column to 1.

Under Capacity %

Enter the percentage to use when selecting information to appear on this report. Only departments that are under capacity by at least this percentage are included.

Normally, all department load information displays. However, in some situations you may want to review only departments that are a certain percentage under or over capacity. You may be better able to meet your company goals by switching production to underutilized departments, or by selectively adding capacity in key areas. Use this report selection to highlight these areas.

If Under Capacity or Over Capacity is not 0 (zero), the system displays the records that exceed the defined percentage.

Over Capacity %

Specify the percentage to use when selecting information to appear on this report.

Only resources that are over capacity by at least this percentage are included.

Normally, all department load information displays. However, in some situations you may want to review only departments that are a certain percentage under or over capacity. You may be better able to meet your company goals by switching production to underutilized departments, or by selectively adding capacity in key areas. Use this report selection to highlight these areas.

If Under Capacity or Over Capacity is not 0 (zero), the system displays the records that exceed the defined percentage.

MPS MRP DRP Detail

Filter

The Filter panel contains key information that identifies an item number, a BOM/formula code, a site, a buyer or planner number, a product line, a group, an item type, a supplier, or a purchase/manufacture code. You can choose whether to include MPS items, non-MPS items, or both. You can determine whether to include base process orders, orders for items with the POQ, FOQ, LFL, GRC, or OTO order policy, and other orders. You can also decide whether to sort the information by item number or by BOM/formula code.

Item Number

Enter a code identifying an inventory item defined in **Items**.

Item codes uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports and inquiries can be selected by item number.

BOM/Formula Code

Enter a code identifying the product structure, formula, and co-product or by-product structure used to manufacture this item.

The BOM/formula or base process for a co-product or by-product structure must be a valid item number. It cannot be a configured item or a co-product or a by-product item. The item cannot have any alternate structures or exist as a component in a non-co-product or non-by-product structure.

Site

Enter a code identifying a site.

A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain,

which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Buyer/Planner

Enter a code identifying the person responsible for planning and ordering this item.

Items at specific sites are associated with buyer and planner codes, and not with orders. Therefore, when you enter a buyer or a planner to limit reporting or inquiry output, items with that buyer or planner assigned are included, but orders are not necessarily included.

Product Line

Enter a code identifying major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process. For example, in the plastics industry, there may be a product line for blow molded items and another for injection molded items. Product lines can also group items by application; creating product lines for raw materials, finished goods, and packaging.

Group

Enter a group code that you can use to categorize similar items.

Product line, group, and type all categorize items. Item group and type may be used to subdivide product lines, or they may cross product lines, providing an entirely different view of your items.

Both group and type may be used for processing and reporting sales and planning information, and updating product costs. Most item and inventory reports can be selected by group and type. Selective MRP/DRP can be run by item group and type.

Items are often grouped based on similar characteristics, such as method of manufacture: group or type could be used to identify

manufactured items with similar setups or routings, allowing you to release planned orders for these items at the same time.

Or, group or type codes may be assigned to correspond with the level in the product structure where the component item appears. During planning, this lets you check plans level by level, in much the same way MRP functions.

Item Type

Enter an item type code identifying similar items to include in the report.

You can select items by item type. Entering a type range excludes items with the Type field left blank. No header or label for the item types prints.

Product line, group, and type all categorize items. Item group and type may be used to subdivide product lines, or they may cross product lines, providing an entirely different view of your items.

Both group and type may be used for processing and reporting sales and planning information, and updating product costs. Most item and inventory reports can be selected by group and type. Selective MRP/DRP can be run by item group and type.

Items can be selected for cycle count based on item type, but not group.

Supplier

Enter a supplier for selecting items to include in the report. Only items with this preferred supplier specified in **Items** are selected.

Purchase/Manufacture

Enter a code indicating how a selected item is processed by the system.

The Purchase/Manufacture code controls how the system explodes forecasts, plans and creates orders, and calculates costs for the item. It affects Material Requirements Planning (MRP) and Distribution Requirements Planning (DRP).

Valid code options include the following.

- P (Purchased). The item is usually purchased. MRP uses the purchasing and inspection lead times to calculate planned order release dates. MRP and cost calculations do not explode purchased assemblies, even when a product structure exists. Any routing/process operations are ignored. You can also manufacture an item designated as purchased. The product structure and routing are accessed if a work order is created for the item.
- D (DRP). The item is usually supplied internally from another site. DRP uses the item's source network to determine where to generate requirements. It uses the transport lead time and shipping schedules to calculate the date when orders must be

shipped from the other site. Any routing or BOM codes entered for a DRP item are for reference only. Cost calculations do not explode DRP items.

- M (Manufactured). The item is normally manufactured. MRP uses the manufacturing lead time to calculate planned order release dates. You can also purchase a manufactured item.
- R (Routable). The item is a special type of manufactured item, made only when needed by an upper-level assembly. A production order for the routable item is created automatically when a production order for its parent is released. The production order number is the same, but the lot ID is different. This lets the system track the two orders separately but accumulate the costs.
- C (Configured). The item is configured to order. When a sales quote or order is entered, the system prompts the order taker to select from a list of configuration options.
- L (Line manufactured). The item is manufactured repetitively on a single line or on multiple production lines.
- W (Flow scheduled). The item is normally manufactured on a flow production line. When you use Import MRP Orders to Schedule to add MRP planned work orders to a flow schedule, you can optionally limit the selection to items with this Purchase/Manufacture code.
- F (Family). A family item typically represents a generic category that is used for planning only; it is never actually made or stocked. For multilevel master scheduling, family items are set up with a planning bill.

Include MPS/non-MPS Items

Specify whether to include Master Production Schedule (MPS) materials only, non-MPS items only, or both in the report.

Master schedule items are typically end items, critical sub-assemblies, spares, service items, critical components, or key resources.

The default is Both.

Include Base Process Orders

Specify whether to include MRP planned orders for base process items.

The default is Yes.

Include POQ

Specify whether to include the orders for items with the Period Order Quantity (POQ) order policy on the report.

The default is Yes.

Include FOQ

Specify whether to include the orders for items with the Fixed Order Quantity (FOQ) order policy on the report.

The default is Yes.

Include LFL

Specify whether to include the orders for items with the Lot-for-Lot (LFL) order policy on the report.

The default is Yes.

Include GRC

Specify whether to include the orders for items with the Gross Requirements Calculation (GRC) order policy on the report.

The default is Yes.

Include OTO

Specify whether to include the orders for items with the One Time Only (OTO) order policy on the report.

The default is Yes.

Include Other

Specify whether to include other orders on the report.

The default is Yes.

Sort by Item Number or BOM/Formula

Specify an option to sort the report output by item number or by BOM/formula code.

The default is Item Number.

When set to sort by BOM/Formula, this option is useful for evaluating information for co-product or by-product processes.

Operations Plan Detail

Filter

The Filter panel contains key information that identifies an item number, a site, and a start date. You can choose a value for the bucket and unit of measure respectively, and choose whether to calculate extended cost on the report.

Item Number

A code identifying an end item.

If you enter an item number, the system selects planning data associated with this end item.

Site

A number identifying the place where the inventory for an item is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these. Specify a site that is associated with these production lines.

Leave blank to begin with the first site matching the other criteria.

Start

The start date the use for selecting planning data for the report.

Leave blank to begin with the first account code matching the other criteria.

Bucket

A code specifying the length of each reporting period.

Valid values are:

1. W (Week). This is the default value. The system displays production data for each week within the specified date range. This is not a calendar week; it is relative to the start and end dates specified. If you enter a start date, the system begins with that date and displays data in seven-day increments. If you enter only an end date, the system starts with that date and calculates backward to determine dates associated with weeks to be displayed.
2. P (Period). The system displays production data for each GL period included in the date range. This is based on the GL calendar. In a typical calendar setup, a period is equivalent to a calendar month. The output includes scheduled and completed production that took place any time in the specified date range.

Unit of Measure

A code specifying the unit of measure for displaying item quantities. The default is EA.

If you specify a unit of measure, the system converts item quantities to this unit of measure. For example, a quantity is either 5,000 cases (CS) or 10 tons (TN). If you set unit of measure to CS, the quantity is 5,000. If you set unit of measure to TN, the quantity is 10.

If you leave the unit of measure blank, the program shows quantities in the inventory unit of measure from the item master record.

Items are commonly stored and planned in different units of measure. For global planning, it is useful to display quantities in the family unit of measure.

Calculate Extended Cost

Specify whether to calculate and display extended costs for item quantities on the report. The default is No.

If you reset this option to Yes, the report has three additional columns that display the total cost for each week's sales forecast, target inventory, and production due quantity.

The report calculates extended cost as Item-Site Standard Cost * Item Quantity. The item-site standard cost comes from the item master record. The item quantity is the weekly sales forecast, target inventory, or production due quantity.

Orders Plan

This report enables you to view sales orders booked each month for a given product line at a given site.

Filter

The Filter panel contains key information that identifies a site, a product line, and a year.

Site

The site this production plan applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Prod Line

The product line code this plan relates to.

Product line codes identify major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process. For example, in the plastics industry, there may be a product line for blow molded items and another for injection molded items. Product lines also group items by application; creating product lines for raw materials, finished goods, and packaging.

Year

The year that this product line plan applies to.

The system maintains product line plans by year, allowing you to keep historical information for developing future plans. All reports and inquiries can be selected and sorted by year.

Planned Orders

Filter

The Filter panel contains key information that identifies an item number, a BOM or formula code, a site, an order, a release date and due date, a buyer or planner, and a purchase or manufacture code. You can choose whether to show phantom items, to include base process orders and by-product orders, and to sort by item number or by the BOM or formula code.

Item Number

A number identifying the item required for this planned order, either a finished product or an intermediate product or subassembly.

Enter an item number to select associated orders for this report.

BOM/Formula Code

A code identifying the product structure, formula, and co-product or by-product structure used to manufacture this item. For co-products and by-products, this is the base process code.

Enter a BOM code or formula code to select associated orders for this report.

Site

A number identifying the site associated with the planned order.

Order

A name or a code for the planned order.

Release Date

Date when the order is scheduled to be released to production.

Due Date

Date when the order is due to be completed.

Buyer/Planner

A code identifying the person responsible for planning and ordering this item.

This field is validated against predefined values entered in Generalized Codes for pt_buyer, if any.

Purchase/Manufacture

A code indicating how this item is typically processed by the system. The purchase or manufacture code controls how the system explodes forecasts, plans and creates orders, and calculates costs for the item.

It affects Material Requirements Planning (MRP) and Distribution Requirements Planning (DRP).

This field is validated against predefined values entered in Generalized Codes for field pt_pm_code, if any.

Valid code options include the following.

1. P (Purchased). The item is usually purchased. MRP uses the purchasing and inspection lead times to calculate planned order release dates. MRP and cost calculations do not explode purchased assemblies, even when a product structure exists. Any routing or process operations are ignored. You can also manufacture an item designated as purchased. The product structure and routing are accessed if a work order is created for the item.
2. D (DRP). The item is usually supplied internally from another site. DRP uses the item's source network to determine where to generate requirements. It uses the transport lead time and shipping schedules to calculate the date when orders must be shipped from the other site. Any routing or BOM codes entered for a DRP item are for reference only. Cost calculations do not explode DRP items.
3. M (Manufactured). The item is normally manufactured. MRP uses the manufacturing lead time to calculate planned order release dates. You can also purchase a manufactured item.
4. R (Routable). The item is a special type of manufactured item, made only when needed by an upper-level assembly. A work order for the routable item is created automatically when a work order for its parent is released. The work order number is the same, but the lot ID is different. This lets the system track the two orders separately but accumulate the costs.
5. C (Configured). The item is configured to order. When a sales quote or order is entered, the system prompts the order taker to select from a list of configuration options.
6. L (Line manufactured). The item is manufactured repetitively on a single line or on multiple production lines.
7. F (Family). The item is used for planning only; it is never actually made or stocked. For multilevel master scheduling, family items are set up with a planning bill.

Show Phantom Items

Specify whether production orders for phantom items are considered by this function. The default is No.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in Items.

Include Base Process Orders

Specify whether to include MRP planned orders for base process items on the report.

The default is Yes.

Include By-Product Orders

Specify whether to include MRP planned orders for by-products on the report. The default is No.

Sort by Item Number or BOM/Formula

Specify an option to sort the report output by item number or by BOM/formula code.

The default is Item Number.

When set to sort by BOM/formula, this option is useful for evaluating information for co-product and by-product processes.

Production Data

Filter

The Filter panel contains key information that identifies an item number, a site, and a start date. You can also choose a bucket and unit of measure to display.

Item Number

A number identifying an item associated with production.

Site

A number identifying the place where inventory for the production order is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Specify a site that is associated with the production order.

Start

The date that the production is scheduled to start.

Leave blank to begin with the first account code matching the other criteria.

Bucket

A code identifying the length of each reporting period.

Valid values are:

1. W (Week). This is the default value. The system displays production data for each week within the specified date range. This is not a calendar week; it is relative to the start and end dates specified. If you enter a start date, the system begins with that date and displays data in seven-day increments. If you enter only an end date, the system starts with that date and calculates backward to determine dates associated with the weeks to be displayed.
2. P (Period). The system displays production data for each GL period included in the date range. This is based on the GL calendar. In a typical calendar setup, a period is equivalent to a calendar month. The output includes scheduled and completed production that took place any time during a month included in the specified date range.

Unit of Measure

A code specifying the unit of measure for displaying item quantities.

If you specify a unit of measure, the system converts item quantities to this unit of measure. For example, a quantity is either 5,000 cases (CS)

or 10 tons (TN). If you set unit of measure to CS, the quantity is 5,000. If you set unit of measure to TN, the quantity is 10.

If you leave unit of measure blank, the program shows quantities in the inventory unit of measure from the item master record. Items are commonly stored and planned in different units of measure.

Product Lines Plan

This report enables you to view plans for sales, shipments, and production for a group of items classified as a product line.

Filter

The Filter panel contains key information that identifies a site, a product line, and a year.

Site

The site that this product lines plan applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Prod Line

The product line code that this plan relates to.

Product line codes identify major item and product groupings.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product lines group items by production process. For example, in the plastics industry, there may be a product line for blow molded items and another for injection molded items. Product lines also group items by application; creating product lines for raw materials, finished goods, and packaging.

Year

The year that this product line plan applies to. The default is the system year.

The system maintains product line plans by year, allowing you to keep historical information for developing future plans.

Recalculate Capacity Plan

This report enables you to view the capacity requirements for all selected orders by scheduling their operations.

Filter

The Filter panel contains key information that identifies a site, an item number, a production line, a production order, an ID, a release date and due date, a sales and job number, and a supplier. You can choose to include work orders, repetitive orders, or both on this report. You can also choose whether to include planned orders, firm planned orders, exploded orders, allocated orders, or released orders.

Site

A code that identifies the site associated with the production lines.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Item Number

The item being manufactured on the selected production order, either a finished product or an intermediate subassembly.

The item can be a co-product, by-product, or base process item.

Production Line

A code identifying a production line associated with the production orders.

The Production Line Default View lists all the production lines, with details displayed in columns.

Production Order

A number identifying a production order.

The production order number and lot ID together identify a specific production order. The same production order can be used with different lot IDs.

ID

A unique code identifying a lot ID.

The production order number and lot ID together identify a specific manufacturing order. The same work order number can be used with different lot IDs.

Release Date

The first date to include on this report.

Leave blank to begin with the first date on which transactions exist.

Only orders due to be released on or after this date are included.

Due Date

Enter the date this production order is due to be completed.

The default is today's date plus the manufacturing lead time for the item. This is the date you plan to have product available for shipment to a customer or to issue to another manufacturing order.

Sales/Job

A sales or job number used to select orders to include on the report.

Sales and job numbers can be referenced on sales orders, purchase orders, work orders, inter-site requisitions, and inventory transactions. The sales and job number is stored in transaction history, letting you review the progress of activities associated with a particular sales order, contract, or job number.

Supplier

A code identifying a supplier for selecting records to process.

When a production order is entirely subcontracted, the supplier can be recorded on the production order and on the production order routing operation.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both on the report.

The default is Both.

Planned Orders

Specify whether planned orders are included in the capacity plan report.

The default is Yes.

Firm Planned Orders

Specify whether firm planned orders are included in the capacity plan report.

The default is Yes.

Exploded Orders

Specify whether exploded orders are included in the capacity plan report.

The default is Yes.

Allocated Orders

Specify whether allocated orders are included in the capacity plan report.

The default is Yes.

Released Orders

Specify whether released orders are included in the capacity plan report.

The default is Yes.

Shipments Plan

This report allows you to view how much of a given product line will ship per month from a given site.

Filter

The Filter panel contains key information that identifies a site, a product line, and the year this plan applies to.

Site

A code identifying the site this plan applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Product line plans may be entered for distribution sites, as well as manufacturing sites. At distribution sites, you are planning order backlog and inventory levels. The sum of the plans from the distribution sites can be used to project order and shipment forecasts at the manufacturing sites. Manufacturing sites determine required manufacturing levels using product line planning.

Prod Line

The product line code this plan relates to.

Product line codes identify major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate using Product Line Planning.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Year

The year that this shipments plan applies to.

The system maintains shipment plans by year, allowing you to keep historical information for developing future plans.

The default is the system year.

Simulation Criteria

This report enables you to view a criteria template that shows the sales forecast results calculated using historical sales data.

Filter

The Filter panel contains key information that identifies a forecast ID.

Forecast ID

A code that identifies a set of forecast simulation criteria. Forecast ID cannot be blank and must be unique.

Each forecast simulation record is identified by forecast ID, year, and item together. Multiple sets of forecast criteria can be stored in the system using different forecast IDs.

The forecast ID identifies a template of criteria for analyzing historical sales data in the calculation of monthly forecast quantities in Simulated Forecast Calculation.

The criteria template may be modified each time a calculation is performed. You may upload forecast results through the CIM interface. The system creates a criteria template and requests a forecast ID.

After calculation, the criteria template is frozen and cannot be further modified. You can modify the criteria template when performing another calculation. Prior forecast results identified by the same forecast ID are overwritten.

Simulation Detail

Filter

The Filter panel contains key information that identifies a plan ID, an item number, and a site. You can select a start date, a bucket, and a unit of measure for the item, and choose whether to calculate extended cost.

Plan ID

A code identifying a simulation operation plan for this report.

Item Number

A number that identifies an item for selecting planning data for this report.

Site

A code identifying a site associated with selected items for processing.

Leave blank to begin with the first site matching the other criteria.

Start

The first date in a range to include on this report.

Leave blank to begin with the first account code matching the other criteria.

Bucket

The length of each reporting period for the report.

Valid values are:

- W (Week). This is the default value. The system displays production data for each week within the specified date range. This is not a calendar week; it is relative to the start and end dates specified. If you enter a start date, the system begins with that date and displays data in seven-day increments. If you enter only an end date, the system starts with that date and calculates backward to determine dates associated with weeks to be displayed.
- P (Period). The system displays production data for each GL period included in the date range. This is based on the GL calendar. In a typical calendar setup, a period is equivalent to a calendar month. The output includes scheduled and completed production that took place any time during a month included in the specified date range.

Unit of Measure

The unit of measure for displaying item quantities. The default is EA.

If you specify a unit of measure, the system converts item quantities to this unit of measure. For example, a quantity is either 5,000 cases (CS)

or 10 tons (TN). If you set unit of measure to CS, the quantity is 5,000. If you set unit of measure to TN, the quantity is 10.

If you leave unit of measure blank, the program shows quantities in the inventory unit of measure from the item master record.

Items are commonly stored and planned in different units of measure. For global planning, it is useful to display quantities in the family unit of measure.

Calculate Extended Cost

Specify whether to calculate and display extended costs for item quantities included in the report. The default is No.

If you reset the Extended Cost option to Yes, three additional columns are added, displaying the total cost for each week's sales forecast, target inventory, and production due quantity.

The report calculates extended cost as Item-Site Standard Cost * Item Quantity. The item-site standard cost comes from the item master record. The item quantity is the weekly sales forecast, target inventory, or production due quantity.

Site Utilization

This report enables you to view line utilization for one or more production lines in a site.

Filter

The Filter panel contains key information that identifies a site and a production line. You can set a start date for this report.

Site

A number identifying the site to include in the report.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Line

A code identifying a production line associated with the selected site.

The screen displays operations plan, production quantities, or production hours associated with this line.

Production lines identify a series of work centers and machines within a site. A production line is normally dedicated to the manufacture of a specific number of products or families. A site can have multiple production lines.

Start

The start date for selecting planning data to process. The default is the system date.

When you specify a start date, the system selects planning data starting with the next planning week or period.

For example, you specify Wednesday, March 6, as the start date. The system selects planning data as of Monday, March 11 (for weekly buckets) or March 1 (for monthly financial periods).

Work Center Input & Output

Filter

The Filter panel contains key information that identifies a work center and a machine. You can set a start date for the report to consider, choose the length of each column period, and set the number of periods for per column.

Work Center

A code identifying a work center to include in the report. The work center code cannot be left blank.

The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Machine

A number identifying a machine in the work center used to perform the production reported.

Machine is not always required. For example, you have two identical paint booths. You can schedule a paint operation at either booth, and the paint time is the same. Set this up as one work center code and leave the machine code blank. You have two CNC machines. One is an older model, while the other is relatively new. These machines cannot be used interchangeably. Work scheduled on one machine cannot be easily changed over to another. Set this up as one work center with two machines.

Work centers with several different machines are also typically set up using a common work center code and different machine codes.

Start Date

The date when the work center for a production order is scheduled to start working. The default is today’s date.

The start date must be early enough to allow time for completion of work, but not so early as to overload the plant.

D/W/M/P

Specify a value that indicates the length of each column period.

Values can be D, W, M, or P. The default is Week.

Information is displayed in columns with one column per time period. Each period summarizes activities for one or more days, weeks, months, or GL calendar periods.

Per Column

The default is 1.

Per Column indicates the number of time periods (days, weeks, or months) to include in each column. Information is displayed in columns, with one column per time period. Each period summarizes activity for one or more days, weeks, or months.

All activities prior to the start date of the report are summarized and printed in the first column under the label Past.

In some situations, it may be useful to review information by month. To do this, set the Start Date to the beginning of the month, set Day/Week/Month to Month, and set Per Column to 1.

Forecast Simulation to Simulation Copy

When combining forecasts, the forecast for an item in the source forecast is added to the forecast for that item in the target forecast. When copying forecasts, the source replaces the target. This approach applies to all items in the source forecast.

You can increase, decrease, or scale the resulting record, or multiply the record by a trend factor. This approach is useful when you have prior knowledge of unprecedented demand such as a future sales promotion.

Note Be cautious when combining forecasts, because it is not recommended. The result is not a valid forecast. Ideally, you should aggregate or combine your historical data before doing a forecast calculation.

Copying forecast results is a helpful approach when you want to aggregate forecasts. View the results of this function in the **Detail Forecasts** report. Adjust the resulting forecast record in the **Detail Forecasts** browse. Consider copying or combining forecasts, before entering forecast results to material requirements planning (MRP).

Forecasts records are combined or copied only in terms of units. When combining forecasts, the target is altered and the original target record is lost. The source is unchanged. If the item range of the target and source records are different, then the target's range is expanded.

You cannot separate combined forecast records. During a combine or replace, the original target forecast record and criteria template is overwritten. The source record is not altered.

Define menu security for this program to restrict access.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data.

Source Forecast

Specify the source forecast. The forecast uniquely identifies the simulation criteria to copy. This field is a mandatory field.

The forecast and forecast year identify the forecast records for an item or group of items from which to copy forecast results.

Each forecast is identified by forecast, year, and item. Multiple sets of forecast criteria can be stored in the system using different forecasts. You can view and sort forecasting simulation reports by forecast and year.

Source Forecast Year

Specify the year to which this forecast applies. This field is a mandatory field.

The system maintains forecasts by year, allowing you to keep historical information for developing future forecasts. You can view and sort all reports by year. The forecast year must be four digits. For example, 2025.

Item

Specify a range of items to include in this report. Leave this field blank to include all items.

Product Line

Specify a range of product lines to include in this report. Leave this field blank to include all product lines.

Group

Specify a range of item groups to include in this report. Leave this field blank to include all item groups.

Type

Specify a range of item types to include in this report. Leave this field blank to include all item types.

Target Forecast

Specify the target forecast. The target forecast uniquely identifies a criteria template to which the source criteria is copied.

Target forecast year identifies the forecast records for an item or group of items to be created or modified by this function. This field is a mandatory field.

Each forecast is identified by forecast, year, and item. Multiple sets of forecast criteria can be stored in the system using different forecasts. You can view and sort forecasting simulation reports by forecast and year.

Target Forecast Year

Specify the year associated with the forecast created or modified by this report. This field is a mandatory field.

The system maintains forecasts by year, allowing you to keep historical information for developing future forecasts. You can view and sort all reports by year.

The target forecast year must be four digits; for example, 2025. If the Target Forecast Year field is blank, the source forecast year is used.

Replace/Combine

Choose whether to replace or combine the target forecast with the source forecast:

- Replace: Any existing data in the target forecast from the start date forward is deleted and replaced with the values of the source forecast.
- Combine: The source forecast data is added to the existing target forecast.

Forecast records are combined period by period.

For example, the source forecast quantity for item A is 200 for January 2025. The target forecast for item A is 300 for the same period. Copying the source forecast record to the target with this field set to Combine, the target quantity becomes 500. If you set this field to Replace, the target becomes 200, overwriting the original 300.

Base Increase/Decrease%

The multiplicative factor that applies to forecast results that are replaced or combined by period.

Specify the percentage by which the forecast quantity is increased or decreased. A negative percentage means the forecast quantity is decreased. The default value is 0.00.

For example, the source forecast quantity of item A for January is 120. If you enter 5 for Base Increase/Decrease%, then the copied result is 6.

Note Each parameter base increase or decrease, scale, or trend, has a different calculation method. For example,

Units Base Increase = 5% Scale = 5% Trend = 5%

Jan. 10 10 + 10 * 5% 10 * 5% 10 + 10 * 5%

Feb. 15 15 + 15 * 5% 15 * 5% 15 + 15 * 10%

Mar. 12 12 + 12 * 5% 12 * 5% 12 + 12 * 15%

+Scale%

The multiplicative factor that applies to forecast results that are replaced or combined by period.

Specify the percentage by which the forecast quantity is scaled. The default value is 0.00.

For example, the source forecast quantity of item A for January is 120. If you enter 5 for Scale, then the copied result is 6.

+Trend%

The multiplicative factor that applies to forecast results that are replaced or combined by period.

Specify the percentage by which the forecast quantity is increased or decreased. A negative percentage means the forecast quantity is decreased. The default value is 0.00.

For example, the source forecast quantities of item A are 100, 150, and 120 for January, February, and March, respectively. If you enter 5% for Trend, then the multiplicative factors are actually 5%, 10%, and 15% for January, February, and March. The copied results are 105, 165, and 138, respectively.

Single Item Forecast Simulation Copy

This report is similar to **Forecast Simulation to Simulation Copy** but here forecast records are copied for a single item. The source forecast for an item is copied to another forecast with a different item. The new item must exist in **Items**.

Often the demand history of an analogous product is used to produce forecasts for a new product. You can scale the forecast results for the new item as some percentage of the old item. This approach is useful when you need to match the seasonal demand of the old item but you don't need to match the quantity.

Forecast records are copied only in terms of units. Source and target items need identical units of measure or a unit of measure conversion. If Target Forecast, Item Number, or Forecast Year is blank, the source data is used.

When copying forecast records, forecasts can be multiplied by a base increase or decrease, scale, or trend factor.

During a combine or replace, the original target forecast and criteria template is overwritten. The source forecast is not altered.

Define menu security for this program to restrict access.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data.

Source Forecast

Specify the source forecast. This field is a mandatory field.

The source forecast determines the criteria for tracking and doing forecast calculation. Multiple forecast criteria can be stored in the system using different forecasts.

Source Forecast Year

Specify the year to which this forecast applies. This field is a mandatory field.

The system maintains forecasts by year, allowing you to keep historical information for developing future forecasts. You can view and sort all reports by year. The forecast year must be four digits. For example, 2025.

Source Item

Specify the item to be copied. This is a mandatory field.

Target Forecast

Specify the target forecast to which the simulation criteria and results should be copied.

It determines criteria for tracking and doing forecast calculation. Multiple forecast criteria can be stored in the system using different forecasts.

Note If you leave this field blank, it defaults to the value in the Source Forecast field.

Target Forecast Year

Specify the year associated with the forecast created or modified by this report.

The system maintains forecasts by year, allowing you to keep historical information for developing future forecasts. You can view and sort all reports by year.

Target Forecast Year must be four digits. For example, 2024.

Note If the Target Forecast Year is blank, the Source Forecast Year is used.

Target Item

Specify the item to be copied to.

Replace/Combine

Specify whether to replace or combine the target forecast with the source forecast by selecting one of the following options:

- Replace: Any existing data in the target forecast from the start date forward is deleted and replaced with the values of the source forecast.
- Combine: The source forecast data is added to the existing target forecast.

Forecast records are combined period by period.

For example, the quantity of source forecast for item A is 200 for January 2025. Target forecast for item A is 300 for the same period. Copying the source forecast record to the target with the field set to Combine, the target quantity becomes 500. Setting the field to Replace, the target becomes 200, overwriting the original 300.

Base Increase/Decrease%

The multiplicative factor that applies to forecast results, replaced or combined by period.

Specify the percentage by which the forecast quantity is increased or decreased. A negative percentage means the forecast quantity is decreased. The default value is 0.00.

For example, the source forecast quantity of item A for January is 120. If you enter 5 for Base Increase/Decrease, then the copied result is 6.

Note Each parameter—Base Increase/Decrease%, Scale, or Trend—has a different calculation method. For example,

Units Base Increase = 5% Scale = 5% Trend = 5%

Jan. 10 10 + 10 * 5% 10 * 5% 10 + 10 * 5%

Feb. 15 15 + 15 * 5% 15 * 5% 15 + 15 * 10%

Mar. 12 12 + 12 * 5% 12 * 5% 12 + 12 * 15%

+Scale%

The multiplicative factor that applies to forecast results, replaced or combined by period.

Specify the percentage by which the forecast quantity is scaled.

For example, the source forecast quantity of item A for January is 120. If you enter 5 for Scale, then the copied result is 6.

+Trend%

The multiplicative factor that applies to forecast results, replaced or combined by period.

Specify the percentage by which the forecast quantity is increased or decreased. A negative percentage means the forecast quantity is decreased. The default value is 0.00.

For example, the source forecast quantities of item A are 100, 150, and 120 for January, February, and March, respectively. If you enter 5% for Trend, then the multiplicative factors are actually 5%, 10%, and 15% for January, February, and March. The copied results are 105, 165, and 138, respectively.

Simulation To Summarized Forecast

The summary forecast table provides MRP with demand used to:

- Calculate gross requirements.
- Project quantity on-hand.
- Produce action messages.
- Schedule and plan orders.

You can create new summary forecasts, replace old forecasts, or combine existing forecasts. The forecasts are identified by forecast, year, and item. The summary forecast records are identified by item, site, and year.

You can combine forecasts into one summary forecast. However, this approach is not recommended because the result is not a valid forecast. Although you can produce a forecast for an entire product line, you can only roll forecasts for individual items into the summary forecast.

Forecast records are updated in the summary forecast only in terms of units. Specify one of three loading methods to deaggregate the monthly forecast records into the weekly summary forecast records:

- 1 - Autospread: The monthly forecast is broken into daily averages, then rolled up into weekly buckets starting on Monday. This is the default method.
- 2 - Load Last Week: The monthly forecast is loaded into the last Monday of that month.
- 3 - Load First Week: The monthly forecast is loaded into the first Monday of that month.

Define menu security for this function to restrict access.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data.

Forecast

Specify the forecast. This field cannot be blank and must be unique.

This field uniquely identifies a set of forecast simulation criteria. Forecast, year, and item identify forecast simulation results.

Each forecast is identified by forecast, year, and item. Multiple sets of forecast criteria can be stored in the system using different forecasts.

Forecast Year

Specify the year to which this forecast applies. The forecast year must be four digits. For example, 2025. This field is a mandatory field.

Item

Specify a range of items. Leave this field blank to include all items.

Product Line

Specify a range of product lines. Leave this field blank to include all product lines.

Group

Specify a range of item groups. Leave this field blank to include all item groups.

Type

Specify a range of item types. Leave this field blank to include all item types.

Summarized Site

Specify a site. This field is a mandatory field.

Loading Method

Specify the loading method. The loading method determines the way that forecast calculation results download into the summarized forecast.

The system has three different loading methods:

- 1 - Autospread: The monthly calculated forecasts are broken into daily averages for the whole month. Then the system sums the daily averages up into weekly buckets starting on the start date entered in the Start Date field.
- 2 - Load Last Week: The monthly calculated forecasts are loaded into a week that contains the last Monday of that month.
- 3 - Load First Week: The monthly calculated forecasts are loaded into a week that contains the first Monday of that month.

For some business environments, the system usually ships a big bulk of orders at close to the end of the month. It is more reasonable to use loading method 2 that loads whole month forecast sales into a single week. It is the same for loading into the first week. Generally, it is more accurate to use the Autospread method loading the calculated forecast results into the summarized forecast table that is accessed by MRP.

Note No matter which method you use, you can always go into **Forecasts**.

Start Date

Specify the start date, which is the earliest date the system considers in calculating and loading weekly forecast quantities.

The default value is today or the first day of the forecast year, whichever is later.

The start date and forecast year are used by the system to determine the week forecast quantities to be loaded. If the start date is Wednesday, the system calculates the daily average from the simulated forecast quantity for the calendar month in which the start date falls. It accumulates five days of forecast into the weekly bucket that begins on Monday of that week. If you select Replace, the five-day forecast quantity replaces the entire quantity that was previously in the bucket. If you select Combine, the five-day forecast quantity is added to the existing forecast quantity.

The system does not process a forecast load if the beginning date of the forecast year and the start date are not in the active forecast period. It also allows you to enter a past forecast year and a currently active start date. You can also enter a future forecast year and start date from a past period. However, if you enter a past forecast year, no forecast quantities load. If you enter a future forecast year, the system loads all buckets for the forecast year starting on the first day of that year.

Replace/Combine

Choose if you want to replace or combine the target forecast record with the source forecast record.

- Replace: Any existing data in the target forecast from the start date forward is deleted and replaced with the values of the source forecast.
- Combine: The source forecast data is added to the existing target forecast.

Forecast records are combined period by period.

For example, the quantity of source forecast for item A is 200 for January 2025. Target forecast for item A is 300 for the same period. Copying the source forecast record to the target with this field set to Combine, the target quantity becomes 500. Setting the field to Replace, the target becomes 200, overwriting the original 300.

Update

Select one of the following options from the dropdown list:

- Yes: Run this function in update mode and change records in the database.

- No: Run this function in report-only mode without updating the database. A report generates for review with the word Simulation displayed at the top of each page.

Production Forecast Delete

Note This utility is for support purposes only and should be used only if requested by the support team.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

Update

Choose whether to delete the selected records and generate a report:

- No: Do not delete the selected records. This option is selected by default.
- Yes: Delete the selected records from the database and generate a report indicating that the process is successful.

ISO 8601 Forecast Conversion

Use the **ISO 8601 Forecast Conversion** utility to convert forecast records in the forecast summary table (fcs_sum) to align with the ISO 8601 definition for the start of the year.

All years where January 1st falls on a Thursday—2015, 2026, 2032, 2037, 2043, and so on—are impacted by this conversion.

Run this utility to convert records from the current year onward. You can also convert records for prior years as required.

ISO 8601 Forecast Conversion considers the following forecast quantities for conversion:

- Shipment forecasts
- Sales quantities
- Abnormal sales quantities
- Production forecasts

The years that have their start dates altered by this utility—2015, 2026, 2032, 2037, and so on—have their current quantity information shifted one bucket later—that is, week 1 into week 2, week 2 into week 3, and so on, up to week 52. Week 52 contains the sum of the quantities for week 51 and 52, which become weeks 52 and 53 for that year.

The years whose start dates are altered by this utility contain 53 weeks. This additional week is incorporated into the 52nd bucket for the corresponding year. You cannot record quantities against the 53rd week as a separate unit.

Previously, this two-week bucket existed in the year immediately preceding each year impacted by this utility. For example, 2014, 2025, 2031, 2036, and so on. Each of these years contained a two-week bucket for week 52.

For each year immediately preceding an impacted year, you can specify a percentage of the week 52 quantity to be placed in week 1 of the following year. Enter this value in the field labeled Split Week 52/53. Setting this field to zero (0.00%) indicates that no quantities will be moved from week 52 into week one of the following year. Setting it to 100% causes the entire week 52 quantity to be moved into week one.

You can set this field to a non-zero quantity when the 52nd week in each year preceding an impacted year contains two weeks worth of forecast.

For example, running this utility changes the start date for 2026 from the week of January 4, 2026, to the week of December 29, 2025. However, in 2025, you cannot assign forecast quantities to the week of December 29th, because it falls in the 53rd week of that year. If you handle this by adding forecast quantities for that week to those for the week of

December 22nd and specify a value in this field, the system automatically divides this quantity between week 52 of 2025—the week of December 22nd—and week 1 of 2026—the week of January 4th.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

Year

Specify a range of years to select forecast records to convert.

Convert records for the current year onward. You can also convert records for prior years as required.

Split Week 52/53

For each year immediately preceding a year whose start date is altered by this utility, this field determines the quantity percentage the system subtracts from week 52 and moves to week 1 of the following year.

If you set this field to zero (0.00%), no quantities are moved from week 52 into week one of the following year.

If you set it to 100%, the entire week 52 quantity is moved into week one of the following year.

You can set this field to a nonzero quantity when the 52nd week in each year preceding an impacted year contains two weeks worth of forecast.

For example, running this utility changes the start date for 2026 from the week of January 4, 2026, to the week of December 29, 2025. However, in 2025, you cannot assign forecast quantities to the week of December 29th because it falls in the 53rd week of that year. If you handle this by adding forecast quantities for that week to those for the week of December 22nd and specify a value in this field, the system automatically divides this quantity between week 52 of 2025—the week of December 22nd—and week 1 of 2026—the week of January 4th.

Simulation

Select one of the following options from the dropdown list:

- Yes: Run this function in update mode and change records in the database.
- No: Run this function in report-only mode without updating the database. A report generates for review with the title Simulation displayed at the top of each page.

Rebuild MRP Detail

In addition, all action messages, available to promise, and production forecast details are deleted. As a result, a full MRP regeneration after running this utility is recommended.

Note This utility is for support purposes only and should be used only if requested by the support team.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

Update

Choose whether to delete the selected records or generate a report in simulation mode only:

- No: Do not delete the selected records. Generate a report only listing the selected records. This option is the default option.
- Yes: Delete the selected records from the database and generate a report listing them.

Low Level Code Update

Under normal conditions, you do not need this function because the QAD Adaptive system automatically updates the low level codes whenever you add or modify product structures. However, during some implementations, structures are imported without input controls. This function takes care of the low level codes for such structures. If you suspect that MRP is not planning items correctly, this function might resolve the problem.

Items with a low level code of 0 should always be purchased items.

Note This function can take a long time to run.

Note This utility is for support purposes only and should be used only if requested by the support team.

Summary Panel

The Summary panel displays the key data of the forecast. The fields are read-only and remain in view when you scroll down the page.

Settings Panel

The Settings panel includes the Format, Date Display, and Decimal Display subpanels that contain various settings for the report. For more information, see Reports on page 296.

Filter Panel

Required Items Only

Choose the items to include in this report:

- Yes: To include only items that are marked for replanning in this report, select Yes from the dropdown list. This option is selected by default.
- No: To include all selected items in this report, select No from the dropdown list.

Items marked for replanning are identified by the system with the MRP Required field set to Yes.

The system marks an item for replanning whenever a change is made affecting order timing or quantity, including changes to the:

- Planning data.
- Inventory balance.
- Product structure.
- Purchase requisitions and orders.
- Sales orders.
- Work orders.
- Master schedule.

- Repetitive schedule.
- Forecast for the item.

Production

Production provides functions to manage the manufacture and processing of goods from materials with production resources. It supports manufacturing for job shop, repetitive, and mixed-mode production environments. These are managed using production orders, which can be maintained and scheduled either as work orders or as repetitive schedules.

Production Control

Production Orders

Next Order

The next automatic production order number for system-assigned numbers.

When you add a production order, it is identified by a production order number and a production order lot ID. You can enter numbers manually or let the system assign the next number by leaving Next Order and ID blank.

The system records the next number and increments it automatically.

The system always assigns the next lot ID when you leave it blank. To avoid confusion, production order numbers and production order lot IDs should be assigned to different ranges of numbers.

The system always uses the next production order number when a purchase requisition is added to the system. It is not used for Material Planning planned orders.

Production Order Notes

Indicates whether notes are normally entered on each production order. Information associated with the production order usually applies to the entire order and prints at the top of the production order document.

This field setting does not control whether notes can be entered, but determines the default that displays whenever you enter or modify an order.

When selected, the order note field defaults to selected; when cleared, it defaults to cleared. If you normally do not use notes, clear this field to avoid being prompted each time with the note entry screen.

The field can be changed manually on an order. When the notes field on an order is selected, the transaction note screen displays for you to enter notes, which can be flagged as printing or non-printing.

Routing Notes

Indicates whether notes are normally entered on each routing operation. Information associated with an operation applies to just that operation and prints on the production order routing document.

The setting of this field does not control whether notes can be entered. It determines the default displayed whenever you enter or modify a production order routing operation.

Selecting this field causes the operation note field to default to selected. Clearing it causes the default to be cleared. The operator can manually change the field on an individual order routing operation.

When the note field on an operation is selected, the transaction note screen displays for you to enter note text.

Auto Add Item to Production Line

Select this option to be able to add items on the fly to a production line. For example, when modifying an order in **Production Orders**, you can add the item to the production line.

Auto Add Alternate BOM Routing

Select this option to be able to add alternate BOM and routing codes on the fly to a production line. For example, when modifying an order in **Production Orders**, you can add a BOM code to the production line.

Component Issue Date Method

Determines how the system calculates the issue date for production order bill components. The issue dates for those components determine the gross requirements for production orders, Material Requirements Planning, and Lean Material Planning.

There are two options available for the field. For the Order Release Date option, the focus is on the production order release date and the lead time offset for the component. For the Operation Start Date option, the focus is on the production order operation start date. The default is Order Release Date.

- Order Release Date

  The issue date for a component on a production order bill is the production order release date, adjusted for the component lead time offset. Order release date is an appropriate choice in most cases. The factors that determine the release date include the production order due date, the manufacturing lead time for the item (or item and site), and the calendars that are used to schedule orders at that site.

- Operation Start Date

  The issue date for a component on a production order bill is determined by the start date for the production order routing

operation that is referenced by the component. Operation start date is an appropriate choice for a site when the data for scheduling production orders and operations has been set up and the accuracy of schedules for all items, routings, and order quantities has been validated.

This is necessary so that the start dates for the operations are aligned to the dates when component materials for those operations are required. When the data is not accurate, then the start and issue dates may be scheduled much earlier or much later than when component materials are actually required, on dates that differ significantly from the production order release date.

The factors that determine the production routing operation start date include those for scheduling a production order, together with those for scheduling production order operations such as machines per operation, overlap units, yield percent, queue time, wait time, setup time, run time, and move time, together with calendars for work centers, production lines, and domain.

When the component references an operation that is not included among the production order routing operations, component issue date is determined by the start date for the previous production order routing operation. For example, when the component references operation 25 and production order contains routing operations 10, 20, and 30, the issue date for the component is the start date for operation 20. When the component operation is blank (not defined), the issue date is the start date for the first production order operation. When there are no production order routing operations, the component issue date is the production order release date, adjusted for the component lead time offset.

Quantity Open Method

This field determines how the system calculates the open quantity on a production order.

- Quantity Processed

  The open quantity on a production order is calculated as the Quantity to Start minus the Quantity Processed.

- Quantity Completed

  The open quantity on a production order is calculated as the Quantity to Complete minus the Completed Quantity.

The Quantity Open Method is used whenever the system needs to know whether an order is open or not. For example, in the Operation Activity Transaction, only open repetitive orders are processed.

When a scrap quantity is recorded, the Quantity Open Method is also used to determine whether a CONS-WO inventory transaction should be created. If the Quantity Open Method is set to Quantity Completed, then scrap quantity does not trigger a CONS-WO transaction. If the

Quantity Open Method is Quantity Processed, the scrap quantity triggers a CONS-WO transaction.

Note Material Requirements Planning (MRP) is not affected by this control setting.

Move to First Operation

This field determines whether the production order release function should set the status of the first operation to Queue.

- Selected

  When the production order is released, the status of the first operation is automatically set to Queue. The status displays on the dispatch list for the specified work center and the operation status of Queue indicates that it is waiting to be started.

- Cleared

  The operation status is left blank. It can be changed manually. When there is a lengthy picking effort required, the order may not be ready as soon as it is released. In that case, clear this field. Once the picking is complete, use the Operation Move function to change the status to Queue.

Zero Balance WIP

This value determines how queue quantities at non-milestone operations are affected when production is reported at subsequent operations. This setting affects:

- Quantities processed using a backflush transaction
- Subcontract shipper issues using Sub Shipper Issue
- Item receipts from subcontract purchase orders or shippers

Regardless of how Zero Balance WIP is set, when the quantity to process, issue, or receive at an operation is greater than the quantity in that operation's input queue (or, for subcontract shipper issues, the output queue quantity o f the previous operation), the system:

- Consumes quantities in the output and input queues of previous non-milestone operations, starting with the output queue of the previous operation. Non-milestone queue quantities are consumed until the previous milestone operation is encountered or the total quantity requirement is satisfied.
- Backflushes additional components as necessary to complete the items it consumes from prior operation queues.

When the quantity processed, issued, or received exceeds the sum of the quantities in previous non-milestone operation queues, the input queue for the non-milestone operation that directly follows the

previous milestone operation is set to a negative value. This also occurs regardless of how Zero Balance WIP is set.

When Zero Balance WIP is selected, the system does the following after transferring the applicable processed, issued, or received quantity from the input queue of the reporting operation and, when applicable, the queues of previous non-milestone operations:

- Moves any leftover quantities from previous non-milestone operation queues to the input queue of the non-milestone operation that directly follows the previous milestone operation.
- Sets all other queue quantities to zero for previous non-milestone operations up to the preceding milestone operation.

When Zero Balance WIP is cleared, leftover quantities remain in non-milestone operation queues until they are moved to subsequent operation queues or manually deleted using WIP Adjust Transaction.

For example, the routing for item A-100 contains 4 operations: 10, 20, 30 and 40. Operations 10 and 40 are milestone operations, while operations 20 and 30 are non-milestone operations. At operations 10 and 20, you report a processed quantity of 20 item A-100, with no scrap or reject, and selected Move Next Op. The system sets the input queue quantity at operation 30 to 20.

At operation 40, you report a processed quantity of only 15 of A-100 and select Move Next Op. The system moves 15 items from the input queue of operation 30 through operation 40 and into finished goods inventory.

- When Zero Balance Work in Process in the Production Order frame is No, 5 items remain in the input queue of operation 30. Operation 20 displays a processed quantity of 20 while operation 30 displays a processed quantity of 15.
- When Zero Balance Work in Process in the Production Order frame is selected, the input queue balance at operation 20 is set to 5 and the input queue balance at operation 30 is set to 0 (zero). In addition, any components issued at operation 20 to the 5 processed units that were moved out of operation 30's input queue are transferred from WIP back to inventory. Operations 20 and 30 both display a processed quantity of 15.

Reason Code Criticality

Specify the system response when an invalid reason code is entered while recording backflush transactions.

- Warning

  The system displays a warning message and pauses; the system accepts the value when you continue. This is the default value.
- Error

The system displays an error message and returns to the Reason field.

Include Yield

Select this option to have the system consider routing operation yield when it calculates cumulative order standard cost.

- Selected

  The system considers the value of yield % in Routings in the cumulative order standard cost. A yield of less than 100% at an operation causes an increase in the overall manufacturing cost, since not all the material produced is expected to be good.

- Cleared

  The system ignores the value of the yield % and always uses 100% in the calculation.

You should set this field to the same value you normally use when running **Routing Cost Roll-Up**, **Operation Cost Calculation**, **Product Structure Cost Roll-Up**, **Simulation Cost Rollup**, or **Simulation Structure Cost Rollup**.

Post Scrap to GL

Select this option to have the system post the value of the scrap quantity from a work-in-process operation queue to the general ledger (GL).

The system determines the value of scrap at the operation based on the production order, the production order routing, and bill. It calculates the cost of scrap by rolling up the material, run-time labor, burden, and subcontract costs.

When the quantity is scrapped from the output queue or reject queue of an operation, the system determines the value of scrap by including the costs for that operation. When the quantity is scrapped from the input queue of an operation, the system determines the value of scrap as the value of the prior operation. For standard costing and co/by-products, the setup time is not included when the system determines the value of scrap because setup costs have already been accounted for in the quantities previously reported as completed. For average costing and co/by-products, the setup time is included when determining the value of scrap.

Next Picklist

The number of the next picklist to be created.

This number is incremented by **Production Order Allocate** and **Bulk Item Picklist Calculation** when a picklist is successfully created. It is not decremented when picklists are deleted.

Picklist Prefix

Enter an optional prefix (up to 3 characters) for picklist numbers. When **Production Order Allocate** and **Bulk Item Picklist Calculation** create a picklist, the system generates a number automatically by adding the next sequential number to the prefix specified here. You can override it, if necessary.

Co/By Quantity Complete Method

On a co-/by-product structure, this field determines the method used by **Production Order Accounting Close** to calculate the base process quantity complete for a joint order set. For other types of product structures and formulas, this setting has no effect.

Valid values are SUMMARIZE, SUM OF CO-PRODUCTS, MAXIMUM, MINIMUM, and ORDER. You cannot leave this field blank.

You can maintain this field when updating co-product and by-product structures in Co/By-Product or Process/Formula. When you create a new co/by-product structure in one of these functions, this field defaults from **Production Order Control**.

The base process quantity complete for a joint order set is calculated as any one of the following, depending on the quantity complete method specified in the co/by-product structure:

- When SUMMARIZE: the total quantity complete for all co-products and by-products in the joint order set
- When SUM OF CO-PRODUCTS: the total quantity complete for co-products only
- When MAXIMUM: the base process quantity required to complete the co-product that consumed the greatest amount of the base process in proportion to the quantity ordered
- When MINIMUM: the base process quantity required to complete the co-product that consumed the least amount of the base process in proportion to the quantity ordered
- When ORDER: the base process quantity complete is equal to the quantity ordered on the original base process production order

The base process quantity complete, in turn , is used to calculate the following:

- Material and labor usage variances for the base process product ion order
- Mix variance amounts for co-product and by-product production orders

To calculate mix variance, the base process quantity complete is multiplied by the ratio between the co-product or by-product quantity ordered and the base process quantity ordered. The result is the

expected receipt quantity for that co-product or by-product. This is compared with the actual receipt quantity to calculate the mix variance amount.

When the method SUMMARIZE or SUM OF CO-PRODUCTS is used, the system converts co-product or by-product quantities to the base process unit of measure before adding them together to calculate the base process quantity complete.

The following sections give a high-level overview of each quantity complete method and indicate the process environments where each might be used.

SUMMARIZE

When Quantity Complete Method is SUMMARIZE, **Production Order Accounting Close** uses the following equation to calculate the base process quantity complete:

*Base Process Quantity Complete = [(Co-product Quantity Complete + Scrap) * Base Process UM Conversion Factor] + [(By-product Quantity Complete + Scrap) * Base Process UM Conversion Factor]*

The SUM method may be appropriate for base processes in which the sum of the co-product and by-product output quantities is always close to or equal to the base process quantity. This includes processes that involve sorting and separation of co-products and by-products, such as a process that sorts fruit by size and weight.

SUM OF CO-PRODUCTS

When Quantity Complete Method is SUM OF CO-PRODUCTS , the system uses the following equation to calculate the base process quantity complete:

*Base Process Quantity Complete = [(Co-product Quantity Complete + Scrap) * Base Process UM Conversion Factor]*

Because it does not consider by-product quantities, the Summarize Co-products method may be appropriate in environments where completed by-products cannot always be traced to particular base process orders. For example, in some business environments, completed by-product

quantities are reported in bulk at the end of each shift instead of in conjunction with production order operations.

MAXIMUM

When Quantity Complete Method is MAXIMUM, the system performs the following calculation for each co-product in the joint order set with a non-zero order quantity:

*(Co-product Quantity Complete + Scrap) * (Base Process Quantity Ordered / Co-product Quantity Ordered)*

The calculation that yields the highest result determines the base process quantity complete for the joint order set.

When the Maximum method is used, the co-product that consumed t he largest quantity of the base process in proportion to the quantity ordered always has a zero mix variance. This is because the base process quantity complete is derived directly from the actual quantity complete for that co-product.

The Maximum and Minimum methods are most appropriate when a particular co-product in a co/by-product structure is considered the primary co-product for the base process. A primary co-product typically drives demand and determines the rate of production for the base process.

Examples of production processes that invoice a primary co-product include sheet-metal stamping and injection molding.

MINIMUM

When Quantity Complete Method is MINIMUM, the system performs the same calculations for each co-product in the joint order set as when Quantity Complete Method is MAXIMUM. However, the following key differences apply:

- The calculation that yields the lowest rather than the highest result is used to determine the base process quantity complete.
- The co-product that consumed the smallest rather than the largest quantity of the base process in proportion to the quantity ordered will have a zero mix variance.

ORDER

When Quantity Complete Method is ORDER, the base process quantity complete is equal to the quantity ordered on the original base process production order.

The Order method may be appropriate in environments where batch quantities for co-products and by-products are determined by some external factor such as the production equipment used and are, therefore, constant.

Work Order

WO Activity Threshold

Specify the earliest status that must apply to discrete production orders before any production activity can take place.

Valid values include the following:

- Allocated
- Exploded
- Firm Planned
- Released

The default is Released.

Repetitive

Repetitive Activity Threshold

Specify the earliest status that must be applied to repetitive production orders before any production activity (picking, backflush, and so on) can take place.

Valid values include the following:

- Allocated
- Exploded
- Firm Planned
- Released

The default is Firm Planned.

Specify Released when you must release repetitive production orders before any production activity (material issue, backflush and so on).

The system uses this as the value for any site that does not have a specific status assigned on the Site Production Exceptions sub-panel.

Transfer WIP

Set the default value for the **Production Order Accounting Close** function. Use this field to indicate whether to transfer WIP quantities and values from **Production Order Accounting Close** to new cumulative orders.

- No

  WIP balances are written off to the Method Variance account for the applicable end-item product line.

- Yes

  WIP queue quantities are transferred from each cumulative order operation to a new cumulative order.

WIP Transfer

Enter the general ledger (GL) account code used to track Work in Progress (WIP) amounts in the cumulative order close functions. This must be a valid, active account of type Standard.

The account is debited at the standard cost of any WIP balances in the cumulative order being closed. If WIP balances are transferred to a new cumulative order, the WIP Transfer account is credited with the standard cost of the new cumulative order times the WIP quantities being transferred. The offset account is the WIP account.

The account is also debited or credited with any method variance generated when closing the cumulative order.

Note

You can enter an allocation code, which represents a set of accounts, in any account field in an operational function. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Op Allocation Code.

End Effective Default Method

Indicate the method to use for effective dates in new cumulative orders. Valid values to enter are as follows:

- GL Period

  The cumulative order start and end effective dates are set to the GL period begin-end dates for the period corresponding to the effective date entered in the transaction.

- Calendar Month

  The cumulative order start and end effective dates are set to the calendar month begin-end dates for the period corresponding to the month of the date entered in the transaction.

- Number of Days

  The cumulative order start and end effective dates are set for the number of days that cover the interval for the transaction effective dates. When you select this method, specify a value in End Effective Days.

- Blank

  The cumulative order start and end effective dates are not set.

End Effective Days

Set this field when you set the End Effective Default Method field to Number of Days.

Specify the number of days that the start and end days cover; for example, for the cumulative order to be effective every 10 days, enter 10.

Repetitive Completion Consumption

Consumption Method

This field applies to scheduled orders; that is, to repetitive or discrete schedules.

Specify the consumption method as one of the following:

- Use GL Period

  The system uses the GL period as the consumption method. The system does not consider schedules with due dates outside of the GL period. The current GL period is determined by effective date. When the Begin Consumption field is set to EffDate, the system consumes the quantity scheduled on the effective date first; then, it consumes from the beginning of the GL period forward when there are multiple schedules for an item when reporting completion. When Begin Consumption is set to Earliest (date), the system posts the completed quantities from the beginning of the GL Period going forward

- Use Starting Week

  The system uses the start of the working week for the effective date. The system does not consider schedules with due dates outside of the working week. When the Begin Consumption field is set to EffDate, the system consumes the quantity scheduled on the effective date first; then, it consumes from the beginning of t he working week forward when there are multiple schedules for an item when reporting completion. When Begin Consumption is set to Earliest (date), the system posts the completed quantities from the beginning of the working week forward.

- Use Consumption Window

  The system determines the consumption window based on effective date, and with calendar days that you set in the Backward Consumption and Forward Consumption fields.
  The system ignores schedules with due dates outside of the consumption window. When you set the Begin Consumption field to From Effective Date, the system consumes the quantity scheduled on the effective date first; then, it consumes from the beginning of the consumption window forward when there are multiple schedules for an item when reporting completion.
  When you set Begin Consumption to From Earliest Avail, the system posts the completed quantities from the beginning of the consumption window forward. Regardless of the consumption method chosen, the system determines the consumption date range based on effective date.
  The process stops when all available schedule and order quantities are consumed or all excess completions have been recorded against a schedule or order. When t he system

cannot find enough open balances, it posts the operation with the transaction quantity. It posts the repetitive schedule and production order record with the open quantity available.

Forward Consumption

Set the days in calendar days for which the system consumes going forward. The Forward Consumption and Backward Consumption fields determine how the system handles item completions that exceed the quantity scheduled for a given day when the Consumption Method is Window. For information on consumption, see the field help for the Consumption Method field.

CONSUMING SCHEDULES

When you set Consumption Method to Window, the system selects schedules to consume based on the following sequence against the reported quantity:

1. The system consumes the order entered in the initial order selection frame (when the order type is not Cumulative).
2. The system consumes orders on the effective date first when Begin Consumption is set to EffDate. For any date chosen, the system selects orders with the lowest sequence number on that day.
3. When the quantity consumed is not reached, the system searches for orders from the beginning of the consumption window (that is, from the effective date, consuming back).
4. When the quantity consumed is not reached, the system searches for orders forward until it reaches the effective date plus Forward Consumption.
5. The system does not consume schedules for extra quantities.

When you set Consumption Method to Week, the system selects schedules to consume based on the same rules described for the Window consumption method. The only difference is that the system replaces the consumption window with the working week of the effective date.

When you set Consumption Method to Period, the system selects schedules to consume based on the same rules described for the Window consumption method. The only difference is that the system replaces the consumption window with the GL period of the effective date.

Orders are considered open and available for consumption when:

- The status of the order meets the production activity threshold and the status is not Closed.
- The open quantity of the order is determined to be greater than 0 (zero). The system determines the open order quantity by checking the order Quantity Open Method in the control table.

When the Quantity Open Method is Quantity Completed, the system calculates the open quantity of available orders as the order Quantity to Complete minus Quantity Completed. When the Quantity Open Method is Quantity Processed, the system calculates the open quantity of available orders as the Quantity to Start minus Quantity Processed.

Note

Legacy Advanced Repetitive processing always used the oldest schedule to apply completions. To emulate this advanced repetitive processing, set Consumption Method to Window; set Backward Consumption to 999, set Forward Consumption to 0 (zero); and set Begin Consumption to Earliest.

Backward Consumption

Set the days in calendar days for which the system consumes going back. The Forward Consumption and Backward Consumption fields determine how the system handles item completions that exceed the quantity scheduled for a given day when you set Consumption Method to Window.

For schedules/orders with due dates in the past, the Backward Consumption value also determines which open quantity planning functions are considered as supply sources.

For information on consumption, see the field help for the Consumption Method field. For a scheduled consumption example, see the field help for the Forward Consumption field.

Start of Week

Enter the start of the week for the system to use:

- When searching for exploded schedules with past due dates on which to record excess item completions
- To determine which open quantities on past schedules to consider as sources of supply in planning functions such as Material Planning

Valid values are Sunday through Saturday.

Begin Consumption

Use this field with the Consumption Method field to determine dates for consumption:

- From Effective Date

  The system uses the effective date and always consumes the open quantity scheduled on the effective date first.
- From Earliest Avail

The system uses the earliest date and always consumes the open quantity from the beginning of the consumption date range.

The system uses the earliest date and always consumes the open quantity from the beginning of the consumption date range.

Site Production Exceptions

The Site Production Exceptions sub-panel allows you to specify a valid site for which you want to apply specific settings.

You must be authorized to use the site. You can delete site-specific settings without additional editing.

This sub-panel consists of the following fields:

- Site
- Site Description
- WO Activity Threshold
- Repetitive Activity Threshold
- Quantity Open Method
- Component Issue Date Method
- Consumption Method
- Forward Consumption
- Backward Consumption
- Start of Week
- Begin Consumption
- Post Scrap to GL

The value of each field here defaults from the same-named field on the Production Orders panel. You can manually enter a value here for a specific site as needed.

For information on system processing for a field, refer to the description for the same-named field above.

Final Assembly

Receive in Sales

This field determines whether you can receive configured items during sales order shipment.

When Receive in Sales is selected:

- You can receive configured items of type assemble-to-order (ATO) from a final assembly (FAS) production order during sales order shipment, creating transaction type RCT-WO.
- The system performs a final assembly receipt (RCT-FAS) for kit items prior to shipment. Since kit items do not have associated

production orders, you cannot generate receipts for them unless this field is selected.

When you process a sales order shipment for an ATO item, the system generates a production order receipt transaction only when all of the following apply:

- Receive in Production is selected.
- An FAS order has been created for the sales order line.
- No receipts have been processed against the FAS order using production order receipt functions.

Production Order Receipts

When Receive in Production is selected, you can choose to receive ATO items from FAS orders using Production Order Receipt instead of sales order shipping functions. This maintains complete component traceability for serial-numbered items.

Note

When Receive in Sales is cleared, you can still ship items against sales order lines that have associated FAS orders, even when the FAS orders have not yet been received in the Production Orders module. However, shipping items against these order lines does not update the quantity completed on the associated FAS orders.

Configured items should never be held in inventory. Items manufactured using FAS orders should be stored in WIP until they are shipped to a customer. If an order for an ATO item is canceled, disassemble the item into its components and return them to stock.

Important If you keep configured items in inventory, your inventory value will be misrepresented, because the GL cost of a configured item includes only the normal costs associated with the assembly process at that level. It does not include the cost of any options and accessories that may have been issued.

Maintaining Component Traceability

The control program settings you choose may depend on whether configured-item components must be directly traceable to their corresponding parent items.

- When you receive configured items from FAS orders using production order receipt functions, component traceability is maintained.
- When you receive configured items during sales order shipment, there is no direct link between components and their configured parents.

If you require configured components to be traceable to their corresponding parents, select Receive in Production. If you do not use kit items in your business environment, you can also set Receive in

Sales to cleared. However, this prevents you from correctly processing kits since you will be unable to receive them prior to shipment.

Configured Items in An Average Cost Environment

If you are using average costing, you must manage configured item shipments to avoid double booking of costs. To do this, set Receive in Sales to selected and Receive in Production to cleared.

You may also need to freeze the GL costs for parent items in configured structures. This ensures that the cost of the parent item remains at zero when its FAS orders are closed using **Production Order Accounting Close**.

If previous Production Order Receipt transactions exist, zero out these costs so that costs for the optional items are not doubled.

Receive in Production

This field determines whether final assembly (FAS) production orders for assemble-to order (ATO) items can be received using production order receipt functions.

The combination of three control program fields determines how FAS orders are issued and received.

- When Unit Orders is selected, FAS production orders for serial-controlled items (Lot/Serial is S in Items) are always created with a quantity of one. When cleared, FAS order quantities are always equal to the quantity ordered on the sales order line from which they were generated. This allows lot traceability, but not serial-number traceability.

  Note

  FAS orders for items that are not serial controlled are always created with a quantity equal to the line item quantity on the sales order, regardless of how Unit Orders is set.

- When Receive in Production is selected, you can receive items from FAS orders using Production Order Receipt, maintaining complete component traceability for serial-numbered items. When cleared, you cannot use production order functions to receive FAS orders. Instead, receipts are processed automatically by Sales Order Shipments, if Receive in Sales is selected.
- When Receive in Sales is selected, items not received using production order functions are automatically received from FAS production orders during sales order shipment. This reduces the number of steps required to receive and ship ATO items.

Configured items should never be held in inventory. Items manufactured using FAS orders should be stored in WIP until they

are shipped to a customer. If an order for an ATO item is canceled, disassembled the item into its components and return them to stock.

Important If you keep configured items in inventory, your inventory value will be misrepresented, because the GL cost of a configured item includes only the normal costs associated with the assembly process at that level. It does not include the cost of any options and accessories that may have been issued.

Maintaining Component Traceability

The control program settings you choose may depend on whether configured-item components must be directly traceable to their corresponding parent items.

- When you receive configured items from FAS orders using production order receipt functions, component traceability is maintained.
- When you receive configured items during sales order shipment, there is no direct link between components and their configured parents.

If you require configured components to be traceable to their corresponding parents, set Receive in Production to selected. If you do not use kit items in your business environment, you can also set Receive in Sales to cleared. However, this prevents you from correctly processing kits since you will be unable to receive them prior to shipment.

Configured Items in An Average Cost Environment

If you are using average costing, you must manage configured item shipments to avoid double booking of costs. To do this, set Receive in Sales to selected and Receive in Production to cleared.

You may also need to freeze the GL costs for parent items in configured structures. This ensures that the cost of the parent item remains at zero when its FAS orders are closed using **Production Order Accounting Close**.

If previous Production Order Receipt transactions exist, zero out these costs so that costs for the optional items are not doubled.

Unit Orders

This field determines whether the system generates final assembly (FAS) production orders with a production order quantity of one for serial-number controlled items.

The combination of three control program fields determines how FAS orders are issued and received.

- When Unit Orders is selected, FAS production orders for serial-controlled items (Lot/Serial is S in Items) are always created with a quantity of one. When cleared, FAS order quantities are always

equal to the quantity ordered on the sales order line from which they were generated. This allows lot traceability, but not serial-number traceability.

Note

FAS orders for items that are not serial controlled are always created with a quantity equal to the line item quantity on the sales order, regardless of how Unit Orders is set.

- When Receive in Production is selected, you can receive items from FAS orders using Production Order Receipt, maintaining complete component traceability for serial-numbered items. When cleared, you cannot use production order functions to receive FAS orders. Instead, receipts are processed automatically by Sales Order Shipments, if Receive in Sales is selected.
- When Receive in Sales is selected, items not received using production order functions are automatically received from FAS production orders during sales order shipment. This reduces the number of steps required to receive and ship ATO items.

Configured items should never be held in inventory. Items manufactured using FAS orders should be stored in WIP until they are shipped to a customer. If an order for an ATO item is canceled, disassemble the item into its components and return them to stock.

Important If you keep configured items in inventory, your inventory value will be misrepresented, because the GL cost of a configured item includes only the normal costs associated with the assembly process at that level. It does not include the cost of any options and accessories that may have been issued.

Maintaining Component Traceability

The control program settings you choose may depend on whether configured-item components must be directly traceable to their corresponding parent items.

- When you receive configured items from FAS orders using production order receipt functions, component traceability is maintained.
- When you receive configured items during sales order shipment, there is no direct link between components and their configured parents. If you require configured components to be traceable to their corresponding parents, set Receive in Production to selected. If you do not use kit items in your business environment, you can also set Receive in Sales to cleared. However, this prevents you

from correctly processing kits since you will be unable to receive them prior to shipment.

Configured Items in An Average Cost Environment

If you are using average costing, you must manage configured item shipments to avoid double booking of costs. To do this, set Receive in Sales to selected and Receive in Production to cleared.

You may also need to freeze the GL costs for parent items in configured structures. This ensures that the cost of the parent item remains at zero when its FAS orders are closed using **Production Order Accounting Close**.

If previous Production Order Receipt transactions exist, zero out these costs so that costs for the optional items are not doubled.

Automatic Backflush

This field determines how configured products of type kit are backflushed during shipment.

- Selected

  The system creates component issue transactions without you having to enter shipment information for each sales order line. You can automatically backflush components unless the default quantity is not available.

- Cleared

  You must process each line, specifying the quantity to backflush.

If the required quantity is not available based on the picking logic used, the system displays a message and you must modify this line manually.

Production Orders

A production order is an authorization to produce a specific quantity of an item for a specific date. Production orders are typically created in response to current or projected demand for an item. You can also use production orders to build up inventory in anticipation of future demand when there is unused manufacturing capacity.

The **Production Orders** view supports the creation and scheduling of either work orders or repetitive schedules. It applies to a variety of manufacturing environments: job shop, repetitive, and mixed-mode. **Production Orders** provides a single flow to manage production planning, scheduling, material supply, activity reporting, and accounting regardless of which production mode is used (discrete or repetitive).

Production Orders enables you to better streamline your manufacturing process and provides more flexibility around your management.

Note

In the **Production Orders** browse, triangle icons in red or orange may display in the Schedule Indicator column.

The red one indicates "Scheduled Receipt Past Due", which displays when the following conditions are met:

- Actual Qty Completed is less than Quantity to Complete.
- Today's date is equal to or later than Due Date.
- Order status is not Closed.

The orange one indicates "Release Past Due", which displays when the following conditions are met:

- Today's date is equal to or later than Release Date.
- Order status is not Released or Closed.

Summary

For a specific production order, you can see some key information about the order in the Summary panel. The panel is located between the menu bar and the navigation bar. It displays information about production order number, ID, product item number, order release date, and quantity to start.

Main

The Main panel contains key information that identifies a production order, including fields such as Site and Order Type. The panel also includes sub-panels such as Scheduling, Actual, and Order Options.

Production Order

When you add a production order, it is identified by a production order number and a production order lot ID. You can enter numbers manually

or leave Production Order and ID blank to use system-assigned numbers.

When you leave Production Order and ID blank, the system checks Production Control for the last production order and ID numbers assigned. It increments these numbers and assigns the new numbers to the new production order and ID.

The production order number and lot ID together identify a specific manufacturing order. The same production order can be used with different lot IDs.

Joint production order sets share the same production order number. This shared production order number can only be used by one joint work order set.

ID

Specify a unique production order lot ID. If the field is left blank, the system automatically assigns a sequential lot ID to the order.

Item

Enter the item being manufactured on this production order, either a finished product or an intermediate product or subassembly. The item can be a co-product/by-product or base process item.

The item number, site, and production line together determine the default routing code, BOM code, estimated yield, lead time calculation, and components for the order from data set up for the item, item-site, and item and production line.

Description 1

The system displays the primary description for the item of the production order.

Description 2

The system displays the extra or supplementary information for the item of the production order.

Site

Enter a site code to identify the facility on which this production order is being processed.

Order Type

Indicate the type of the production order.

The production order type identifies the production order source and how it should be processed.

Values are E (Expense), R (Rework), S (Scheduled), C (Cumulative), F (Final Assembly), R (Routable), or blank.

- Blank: When the field is left blank, the system assumes it is a discrete manufacturing environment and the order is treated as a discrete work order.
- E (Expense): Create an order with type E when a production order is required to capture the costs and expenses for non-inventory jobs, such as engineering prototypes or design projects. They are tracked by a production order so costs can be accumulated. Usually a special GL account and project code is entered. Expense production orders do not have any routing operations or components.
- R (Rework): Create an order with type R when a production order is required for the rework or repair of an item quantity. This type of order is created with no routing and only one component—the product being reworked. Additional component materials can be issued as required to complete the rework or repair. Rework expenses can be tracked separately by entering a different GL account and project code.
- S (Scheduled): When it is repetitive manufacturing, enter S in the field for the system to create a scheduled order. When the Pur/Mfg code for the item or item-site is L, the system also create a scheduled order. The system also generates scheduled orders when a production order is split.
- C (Cumulative): Cumulative orders are generated by the system to account for the production costs of both repetitive scheduled orders and split production orders.
- F (Final Assembly): The system generates final assembly production orders when a sales order for a configured product is released to manufacturing. It uses the standard routing for the item, but the product structure contains only the items chosen on the sales order configuration. These orders are released and processed as regular production orders.
- R (Routable): The system manages one other kind of production order that is not represented by a separate type code. Sub-assemblies can be set up so that production orders are automatically created for them when a parent item is allocated or released.

  Note

  To identify a routable item, set the Pur/Mfg code for the item to Routable in **Items**. A production order for a routable item shares the same order number with the parent production order, but has a unique order ID. Once created, the status of a routable production order is F. The system cannot create routable production orders if the routable components are co- or by-products.

The system calculates Quantity to Complete of a routable component according to the following formula: **Quantity to Complete of a routable component = Qty Required of the routable component - Qty Detail Allocated**

The system then calculates Quantity to Start based on the Quantity to Complete and Yield values. For the system to create the routable order, Qty Required must be larger than Qty Detail Allocated for the routable component.

Once a routable production order is created, the system does not synchronize it with the parent production order. For example, modifying, removing, or splitting the parent production order does not apply changes to the routable production order. You need to maintain the routable production order manually.

Repetitive orders are supported. This indicates that the system generates production orders for the involved routable components when a repetitive order is allocated or released. Such routable production orders are discrete orders.

Routable production orders can be allocated, released, and used for processing component issues, inventory receipts, and shop floor control transactions. When the subassembly is finished:

- Process a production order receipt from the routable production order.
- Then issue the subassembly as a component to the parent production order.

Manufacturing Type

This field displays how the production order is manufactured, either Work Order or Repetitive.

Remarks

You can enter some remarks about the production order. This field is for reference only and can appear on some reports.

Scheduling

The system uses a combination of order due date, release date, and so on to schedule production orders.

Production Line

Specify the production line on which this production order is to run. You could leave this field blank for discrete production orders.

Order Date

Specify the date when the production order was entered into the system. The default is today's date. Production order reports can be selected for ranges of order dates.

Release Date

Specify the date when the production order is scheduled to release to production. The default is today's date.

The system changes the date you enter here to the actual release date when you release and print the production order.

Most reports and inquiries can be selected for ranges of release dates. Orders you have not released by this date are flagged on the Material Planning reports.

The release date also determines the date components are required. Normally components are picked when an order is released, so the component need date defaults to the order release date. Some components may be needed before or after production begins, as defined on the product structure in the Lead Time Offset field. If lead time offset is positive, it is added to the release date. If it is negative, it is subtracted. Material Planning uses component need dates, and they print on the picklist document.

The system calculates either release or due date, creating, in effect, forward or backward order scheduling. When you:

- Enter a release date but leave the Due Date field blank, the system calculates the Due Date by starting at the beginning of the Release Date and forward scheduling starting with the queue time for the first operation.
- Enter a due date but leave the Release Date blank, the system starts at the end of the Due Date and backward schedules starting with the last move time for the last operation.
- Leave both dates blank, the Release Date is set to today's date and forward scheduling is used.

In any case, the order quantity is used in calculating run time.

You may get different release and due dates using forward versus backward scheduling. This is because some lead time components are scheduled in shop days, and some in calendar days. A shop day lead time component may be in effect over a weekend in one direction, whereas in the opposite direction, a calendar day component may be in effect.

Due Date

Specify the date when the production order is due to be completed. The default is today's date plus the manufacturing lead time for the item.

This is the date you plan to have product available for shipment to a customer or to issue to another manufacturing order. All Material Planning plans are based on supply being available on this due date.

When you create an order, the due date is calculated from the release date. The calculation begins by setting the release date to the current date, then uses the manufacturing lead time and a proper calendar to calculate the due date:

- When you create a production order, the system uses the manufacturing lead time to calculate the due date starting from today by default. If there is a primary production line defined for the item on the order site, the primary production line calendar takes precedence over the other kinds of calendars, and is used first.
- When no routing scheduling logic is involved and the production line is assigned, if you leave the release date or due date blank, the system uses the specified production line calendar first.
- When there is no production line calendar, the system uses the site calendar; if no site calendar exists either, the system uses the domain calendar.

Note Material Planning uses a combination of production order due date, release date, and manufacturing lead time to schedule production orders.

You can manually control due dates. To define either the release or due date and have the program calculate the undefined date, enter the defined date and leave the date you want to calculate blank. The system calculates the date for the blank field using the date from the other field and the operation times from the item routing.

- If you enter a release date but leave the Due Date field blank, the system calculates the due date by starting at the beginning of the release date and forward scheduling starting with queue time for the first operation.
- If you enter a due date but leave the Release Date field blank, the system starts at the end of the due date and backward schedules by starting with the last move time for the last operation.
- If you leave both dates blank, the release date is set to today’s date and forward scheduling is used.

Note In all cases, the order quantity is used in calculating run time.

Need Date

Enter the date that the completed quantities are required to fulfill higher-level demand. This field is used in Production Scheduling Automation.

Order Status

Production order status tracks the order through the manufacturing process. Status mainly determines whether the production order quantity and due date can be changed by Material Planning, and whether the order should be affected by engineering changes prior to release. Most functions can specify order status—in particular, capacity planning recalculations.

- P (Planned): Planned orders are created by MRP and are deleted the next time MRP runs.

  A planned order generated by MRP has an item number that determines what is made (one item per production order) and site, which determines the routing code, bill of material, and expected yield. The production order type is blank. MRP fills in the quantity ordered and due date, and calculates the release date by subtracting the lead time for the item at that site from the due date.

- F (Firmed): The Firmed status indicates that the planned order is frozen in quantity and time and cannot be changed by MRP. The firm planned order can only be changed by the planner. If the planner changes the quantity for an order, the quantities of its components and the times for its routing operations are automatically adjusted. If the planner changes a quantity or date on a co-product/by-product or base process production order, the quantities and corresponding dates are automatically adjusted on the other orders in the joint production order set.

- E (Exploded): When the production order status is changed to exploded, the order is broken into its component parts. Explosion adds components, extended quantities, and byproducts. Exploded orders firm the bill and routing for this production order. Once an order is exploded, changing the standard bill or routing does not affect the order. Any changes must be made in Production Order BOMs and Production Order Routings.

- A (Allocated): Allocated orders are extensions of exploded orders and are used for inventory transactions. You cannot record labor feedback against orders with status Allocated. Allocations can be made based on the Allocation Policy you set for the item.

- R (Released): All available components are allocated, and a picklist can be printed when the order has the released status. When a key item is not available, the production order cannot be released. You can process material issues, receipts, and labor feedback against released production orders.

Note A production order cannot be released if any of its key items has insufficient inventory. When you change Order Status of such a production order to Released, the system displays information about the key items in the error message. Note that the system does not show key item information when you perform the Release action or use **Production Order Release Print** to release the order.

- C (Closed): No more material can be issued or received against a closed production order. Labor can still be reported. When the status of a joint production order set is set to closed using Production Order Receipt, current average, current last, and GL average costs are updated. Costs are also updated when running Prod Order Accounting Close. When the status of an order is changed to C, all of the open requirements for materials, allocations, and work center operations are removed.

Production Sequence

Enter the sequence number. The production sequence number defaults to zero (0). This lets you insert a production order between orders that have already been sequenced.

Shift

You can enter which shift the production is on. The default value is blank; you can change to 1, 2, 3, or 4. When you change the shift, it may change the production productivity percentage, which in turn may change the production order required capacity, and ultimately change the projected duration days and hours.

Production Start Date/Time

Displays the scheduled production start date and time as provided by QAD Advanced Scheduling. This indicates when the production line is allocated for this specific order, and when the production activities can start.

Production End Date/Time

Displays the scheduled production end date and time as provided by QAD Advanced Scheduling. This is when all the production activities for this production order have finished, freeing up the production line for the next scheduled activity. This could be the next production order, a changeover to prepare for the next order, or any machine .

Auto Schedule

Select this field to make Production Scheduling Automation re-schedule the order. The Auto Schedule field for a production order determines whether the Production Scheduling Automation program can re-schedule the order. Orders with Auto Schedule set to Yes can be rescheduled next time Production Scheduling Automation executes. By default, this field is set to Yes for all orders that are

generated by the Production Scheduling Automation program. If you do not want certain orders to be rescheduled during Production Scheduling Automation, you can manually set the Auto Schedule field for them to No. Alternatively, you can set Auto Schedule to No when running Production Scheduling Automation. Then the system sets the Auto Schedule field to No for all production orders generated during Production Scheduling Automation.

Quantity to Start

The quantity to be processed considering the estimated yield percent. When the order is maintained by entering the Quantity to Start, the system calculates the Quantity to Complete from the Quantity to Start and the Estimated Yield Percent. When an order is maintained by entering the Quantity to Complete, the system calculates the Quantity to Start. When both quantities are entered, the system recalculates and updates the Estimated Yield Percent.

Note

Quantity to Start cannot be zero (0).

Quantity to Complete

The quantity that is expected to be completed for the production order. When the order is maintained by entering the Quantity to Start, the system calculates the Quantity to Complete from the Quantity to Start and the Estimated Yield Percent. When an order is maintained by entering the Quantity to Complete, the system calculates the Quantity to Start. When both quantities are entered, the system recalculates and updates the Estimated Yield Percent.

Note

Quantity to Complete cannot be zero (0).

Estimated Yield Percent

Enter the percentage of items that are expected to be produced and completed in conforming or usable condition. Yield defaults from data from Items.

When you enter a value in either Quantity to Start or Quantity to Complete, the system calculates the other value based on the estimated yield percent. The difference between the two fields displays in the display-only Estimated Qty to Scrap field. When both the Quantity to Start and Quantity to Complete are entered, the system recalculates and updates the value for the Estimated Yield Percent and Estimated Quantity to Scrap.

Estimated Qty To Scrap

The difference between the Quantity to Complete and the Quantity to Start, rounded up to the next integer value. It is the quantity that is expected to be unusable as the result of production.

Routing

Enter a code identifying the routing or process used to produce this item or product.

BOM/Formula

Enter a code identifying the product structure or formula.

The production order BOM is derived from the item's product structure defined in Product Structures. Inventory allocations and issues are based on the bill. Material Planning uses the bill of material to calculate component demand.

As production progresses, you can make any required changes to the order BOM. In this way, you can compare what you actually use with the standard. Item quantities allocated, issued, or picked are also maintained in the BOM.

The BOM code accesses the components for the order bill. These components are listed on the order picklist, and MRP demands are created for them.

Sales/Job

Enter the code for the sale or job associating this production order with a specific sales/job. For a new order, the default is blank. For an existing order, the default is the Sales/Job from the first detail line.

Supplier

Specify the supplier associated with this production order, if any.

Split Order Cum ID

This display-only field shows the assigned cumulative ID for the split production order. Split orders have the same order number, but a unique cumulative ID.

Actual

The system displays the actual completed quantity and actual scrapped quantity in the Actual sub-panel.

Actual Qty Completed

The total quantity of finished items received against this production order.

This total is updated by the system as finished items are received into inventory.

This field is read-only.

Actual Qty Scrapped

The total quantity reported as scrapped against this production order.

Order Options

Order Sheet Printed

Indicate Yes when the order sheet has been printed.

The default is No.

Regulatory Attributes

Regulatory Attributes can increase the control over the tracking of materials through manufacturing and inventory.

Regulatory Attributes is only available for discrete production orders.

Batch

This is an optional reference field that you can use for tracking production orders. The batch number field is stored in the production order master and in transaction history.

Batch numbers group and categorize production orders. You can assign batch numbers to production orders for reporting and traceability based on regulatory attributes. You can assign the same batch number to a group of production orders that run through a single manufacturing process. You can assign one batch number per production order receipt session.

Single Lot

Use Single Lot to restrict receipts from this production order to a single end-item lot. You cannot modify this value after items have been received from the production order.

When Single Lot is selected, all end items received in the same production order receipt transaction must have the same lot number. An end-item lot number cannot be received in multiple order receipt transactions; however, you can use the multi-entry feature in receipt transactions to assign item quantities from the same end-item lot to multiple sites, locations, or references.

Lot Number

The default value for Lot Number for inventory lots received from this production order. Once a receipt occurs, Lot Number cannot be changed.

If the Auto Lot Numbers field in Items is selected, an automatic lot number is assigned to the receipt.

Receipt Status

The default value for the inventory status code for inventory lots received from this production order.

Active

Indicates whether the preceding inventory status should be used as the default for inventory receipts.

Select this check box to use the preceding status code. If you do not select this check box, the system ignores any entry in the previous field.

Expire Date

The default value for expiration date for inventory lots received from this production order.

When Expire Date is blank for the production order, the system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date.

Grade

The default value for grade for inventory lots received from this production order. Grade is used to identify the quality or physical properties of a lot. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Assay%

The default value for assay percentage for inventory lots received from this production order.

Accounting

The Accounting panel is available only for discrete production orders. It displays the Project field as well as the following production order accounts:

- Work in Process
- Material Usage Variance
- Material Rate Variance
- Subcontract Usage Variance
- Subcontract Rate Variance
- Mix Variance
- Floor Stock

The Project field indicates an optional component of an account number defined in the GL setup functions.

The previous production order accounts are maintained for the production order or CUM order, and their values first default from Production Order Accounts, using the item product line and item site, then default from the account defined in Product Lines.

You can view and reserve the default values. You can also reconfigure those fields.

Split Order Set

If you split a discrete production order, you can view information for the resulting scheduled orders and the split cumulative order in the Split Order Set panel.

Note

The Split Order Set panel is only available for split scheduled orders and split cumulative orders. When the order is repetitive, you can view information for the split scheduled orders and the cumulative order in the **Production Orders** browse.

Co/By-Product Order Set

The Co/By-Product Order Set panel allows you to maintain co/by-products within a production order.

You can click New, Edit, or Delete to directly manage co/by-products in the grid. You can also click Details to launch the **Co/By-Product Order Set** hybrid view for further .

Note When you select a co/by-product order from the Production Orders browse, the system displays the base process order in the view. The co/by-product order is displayed in the grid of the Co/By-Product Order Set panel. When you are creating an order from a co-product, after clicking Save, you need to refresh the order to display the base process order in the view.

Bill of Materials

You can click New to create more component items, or select an existing record and click Edit or Delete to modify or remove it. This panel also allows you to click Details to open the **Production Order BOMs** hybrid view to maintain BOMs.

Note

For repetitive production orders and scheduled orders, you cannot add, remove, or modify components on this panel.

You can also click Allocate on this panel to manually update detail allocations for a component item on a production order. For details about the manual allocation function, see the Production Order Manual Allocation Action description in Production Order BOMs on page 3554.

Routing

You can click New to create more operations for the routing, or select an existing record and click Edit or Delete to modify or remove it. This panel also provides a means of accessing the **Production Order Routings** hybrid view as well as lets you drill down into related routing data.

Note

For repetitive production orders and scheduled orders, you cannot add, remove, or modify operations on this panel.

Purchase Order Exists

Indicates if there are any subcontract purchase orders created for the operation.

-  **Green Circle Check Mark (Order Exists).** Indicates that a subcontract purchase order has been created for the operation.
-  **Orange Caution (No Order).**Indicates that a subcontract purchase order needs to be created for the operation.
-  **Empty Grey Circle (Not Applicable).**Indicates that this is not a subcontract operation and that a subcontract purchase order does not need to be created for this operation.

Notes

The Notes panel allows you to manage note records.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this order.

You can create multiple records with different page numbers to add notes for one order.

Note The Notes panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Note In the detailed Notes view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected sbased on browse search criteria and

automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Production Order Allocate Action

When you run Production Order Allocate, the system allocates inventory by reserving item quantities in stock for the production order. After the inventory is allocated, it is no longer available for other customer orders.

Allocation for a component can be made based on the Allocation Policy you set for the component in Items > Picking.

Allocation Policy

- Detail (default): Specify Detail to have production order and bulk item picking processes and picklists determine and direct the picking of inventory quantities from specific locations and/or lots. The system creates detail allocation for inventory quantities when a production picklist is created for the production order. When it is Detail, the system automatically creates detail allocation for the item when the order is allocated or released. When a component item has an issue policy of No Issue, it is not allocated to the production order.
- General: Specify General to have production order and bulk item picking processes and picklist identify the item and quantity to pick, but not quantities from specific locations and/or lots. The system creates general allocations for the item and site when the status of the order is changed to Allocated or Released and when a production picklist is created for the production order.

You can set an allocation policy for each component. In this way, you decouple allocation from order status. The system creates allocation based on the allocation policy regardless of whether an order status is A(llocated) or R(eleased). To manually update allocation for a component item on a production order, you can click Allocate on Production Orders > Bill of Materials.

Filter

You can set filter criteria for Production Order Allocate, including production order code, ID, batch, release and due dates, item number, scheduler, production line, shift, BOM/formula code, site, and order status. Choose whether to include production orders, repetitive orders, or both; MPS/non-MPS; subcontract, kanban, GRC, or phantom items; or sequence orders only. You can choose whether to calculate the picklist.

Production Order

Enter one or a range of codes to identify the production orders to release.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter one or a range of IDs to identify the production orders to release.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Batch

Specify the batch number that groups and categorizes production orders. One batch number can be assigned to many production orders.

Batch is an optional reference field that you can use for tracking production orders.

Release Date

Specify the date the production order is scheduled to release to production.

Due Date

Enter the first due date for selecting records to display. Leave it blank to begin with the first transaction date.

Item Number

Enter the item for selecting orders to release.

Scheduler

Enter a valid user name specified in Users for the person responsible for scheduling the production line.

Production Line

Enter the production line for selecting orders to release.

Shift

Specify which shift the production order is on. The value for shift can be blank, 1, 2, 3, or 4.

BOM/Formula Code

Enter a BOM or formula code for selecting orders to release.

Site

Enter a valid site code for selecting orders to release. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Order Status

Specify the order status for selecting orders to release. You can leave this field blank or set it to F (Firmed), E (Exploded), or A (Allocated).

Include WO/Rep/Both

Set this field to Discrete, Repetitive, or Both to indicate if discrete production orders, repetitive production orders, or both are considered by this function.

The default is Both.

Include MPS/non-MPS Items

Set this field to MPS, non-MPS, or Both to indicate if production orders for Master Production Schedule (MPS), non-MPS, or both type items are considered by this function.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

The default is Both.

Include Subcontract Work Center

When the field is set to No, the system excludes subcontract requirements. When it is set to Yes, the system includes subcontract requirements. The default is No.

If a supplier is set up on the work center, it can be considered a subcontract work center.

Include Kanban Items

Set this field to Yes or No to indicate if production orders for kanban items are considered by this function.

Kanban items are defined in Items for use in the QAD kanban module.

The default is No.

Include Phantom Items

Set this field to Yes or No to indicate if production orders for phantom items are considered by this function.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot) be received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in Items.

The default is No.

Include GRC Items

Set this field to Yes or No to indicate if production orders for Gross Requirements Calculation (GRC) items are considered by this function.

The default is No.

Sequence Orders Only

Set this field to Yes or No to indicate whether to include sequence orders only.

The default is No.

Calculate Picklist

Indicate whether to calculate a picklist for each production order.

The default is Yes.

Release Action

Releasing a production order has the following effects:

- Items not previously allocated are allocated based on the setting of the allocation policy of the item. The system uses Production Picking Order defined in Items to create detail allocation, if needed.
- The picklist is printed, displaying the quantity of the material to be picked. Location may be shown based on the setting of the allocation policy.
- The first operation is moved to the queue status if Move First Operation is set to Yes in Production Order Control.

You can prevent production orders for specified items from being released to the shop floor. For example, you might want to restrict from release any items that are going to be phased out or obsoleted in the near future.

To use this feature, use Item Status Codes to identify one or more status codes that you want to associate with items that cannot have production orders released. Assign REL-WO to these codes as a restricted transaction, then enter one of these codes in the Item Status field in Items for any item you want to prevent from being released on a production order.

Then when you attempt to release an order for such an item in the QAD Planning and Scheduling Workbenches or Production Orders, the system displays an error message.

When there are shortages of important components in a production order, you can specify these items as key items in Items. This then prevents the system from releasing the order.

You can also change any component on a production order bill to a key item in Production Order BOMs.

The Release action also enables you to:

- Print production order sheets.
- Release production orders along with printed shop paper.
- Calculate picklists.
- Print picklists.

- Print shortage tags (for component inventory that is short/not allocated).
- Dispatch the shop paper along with any picked materials to the shop floor.

Filter

Set the following filter criteria as needed. You can set filter criteria for production order, ID, batch, release and due dates, item number, scheduler, production line, shift, BOM/formula code, site, and order status. You can also choose whether to include MPS/non-MPS; subcontract, kanban, GRC, or phantom items; or sequence orders only.

Production Order

Enter one or a range of codes to identify the production orders to release.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter one or a range of IDs to identify the production orders to release.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Batch

Specify the batch number that groups and categorizes production orders. One batch number can be assigned to many production orders.

Batch is an optional reference field that you can use for tracking production orders.

Release Date

Specify the date the production order is scheduled to release to production.

Due Date

Enter the first due date for selecting records to display. Leave it blank to begin with the first transaction date.

Item Number

Enter the item for selecting orders to release.

Scheduler

Enter a valid user name specified in Users for the person responsible for scheduling the production line.

Production Line

Enter the production line for selecting orders to release.

Shift

Specify which shift the production order is on. The value for shift can be blank, 1, 2, 3, or 4.

BOM/Formula Code

Enter a BOM or formula code for selecting orders to release.

Site

Enter a valid site code for selecting orders to release. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Order Status

Specify the order status for selecting orders to release. You can leave this field blank or set it to F (Firmed), E (Exploded), or A (Allocated).

Include MPS/non-MPS Items

Set this field to MPS, non-MPS, or Both to indicate if production orders for Master Production Schedule (MPS), non-MPS, or both type items are considered by this function.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

The default is Both.

Include GRC Items

Set this field to Yes or No to indicate if production orders for Gross Requirements Calculation (GRC) items are considered by this function.

The default is No.

Include Phantom Items

Set this field to Yes or No to indicate if production orders for phantom items are considered by this function.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in Items.

The default is No.

Include Kanban Items

Set this field to Yes or No to indicate if production orders for kanban items are considered by this function.

Kanban items are defined in Items for use in the QAD kanban module.

The default is No.

Include WO/Rep/Both

Set this field to Discrete, Repetitive, or Both to indicate if discrete production orders, repetitive production orders, or both are considered by this function.

The default is Both.

Sequence Orders Only

Set this field to Yes or No to indicate whether to include sequence orders only.

The default is No.

Include Subcontract Work Center

Set this field to Yes or No to indicate if subcontract work centers are considered by this function. This field is used to filter materials from the picklists that are required for subcontract work centers.

The default is No.

Move First Operation

Indicate whether the production order release function should set the status of the first operation to Queue.

- Yes: When the production order is released, the status of the first operation is automatically set to Queue. The status displays on the dispatch list for the specified work center, and the operation status of Queue indicates that it is waiting to be started.
- No: The operation status is left blank. It can be changed manually. When there is a lengthy picking effort required, the order may not be ready as soon as it is released. In that case, set this field to No. Once the picking is complete, use the Operation Move function to change the status to Queue.

The default is Yes.

Calculate Picklist

Set this field to Yes or No to indicate whether to calculate a picklist for each order and whether to assign the allocation (general or detail) to the picklist.

The default is Yes.

Print Picklist

Select one of the following options:

- Unprinted: The system prints unprinted picklists only.
- None: The system does not print picklists. Users could print the picklists using the Production Order Picklist Print function.
- Printed: The system prints printed picklists only.

- Both: The system prints both printed and unprinted picklists.

The default is Unprinted.

Picklist Sort By

Set this field to Location or Item Nbr to determine the sort order of the components on each picklist:

- Location: sort by Location/Item.
- Item Nbr: sort by Item/Location.

The default is Location.

Page Break By Sort Option

Set this field to Yes or No to determine whether to add page breaks by sort.

The default is Yes.

Print Shortage Tags

Set this field to Yes or No to determine whether to print shortage tags for production orders that meet the search criteria and have shortage allocations. The sort is by component.

The default is No.

Remarks

Add remarks pertaining to the release. This field displays on the report header and is not store in the database.

Print Production Order Sheet

Select one of the following options:

- Unprinted: The system prints unprinted order sheets only.
- None: The system does not print order sheets.
- Printed: The system prints printed order sheets only.
- Both: The system prints both printed and unprinted order sheets.

The default is Unprinted.

Include Routing

Set this field to Yes or No to determine whether to print the routing information for the production order.

The default is Yes.

Include Components

Set this field to Yes or No to determine whether to print the components with the associated routing operations.

The default is Yes.

MSW Selected to Print

Set this field to Yes if you want to print the production orders preselected in the MSW.

The default is No.

Print Attribute Profile

Set this field to Yes or No to determine whether to print attribute profiles.

The default is Yes.

Print Item Level Attributes

Set this field to Yes or No to determine whether to print item-level attributes.

The default is No.

Group Attributes by Category

Set this field to Yes or No to determine whether to divide attributes into several groups according to their categories.

The default is No.

Print Test Data

Set this field to Yes or No to determine whether to print test data.

The default is Yes.

Print Lot Attributes

Set this field to Yes or No to determine whether to print lot attributes.

The default is No.

Update Release Date

Set this field to Yes or No to determine whether to update the release date.

The default is No.

Print Action

With this function, you can print shop floor paper if someone wants to:

- Review component requirements, routing operations, and test specifications for a production order.
- Review engineering modifications made to the components or routing operations to a released order.
- Reprint or print more copies of an order.

There are another two ways for you to print shop paper when releasing production orders. You can:

- Choose Actions > (*Individual* or *Bulk*) Release.

  This action enables you to prepare documents that authorize production, print picklists, print production order sheets, and change the order status to R (Released).
  The Release action also enables you to:

  - Print production order sheets.
  - Release production orders along with printed shop paper.
  - Calculate picklists.
  - Print picklists.
  - Print shortage tags (for component inventory that is short or not allocated).
  - Dispatch the shop paper along with any picked materials to the shop floor.

- Print orders through the Planning and Scheduling Workbenches.

  To do this, you need to take the following steps:

  1. Specify orders for print in the MSW.
  2. Save the production orders you want to print.
  3. Launch the Web UI, and choose Actions > (*Individual* or *Bulk*) Release in Production Orders.
  4. Set the MSW Selected to Print field to Yes.

  Then the system prints the production orders you have selected in the MSW.

Filter

Set the following filter criteria as needed. You can set filter criteria for production order, ID, batch, release and due dates, item number, scheduler, production line, shift, BOM/formula code, site, and order status. You can also choose whether to include MPS/non-MPS; kanban, GRC, or phantom items; or sequence orders only.

Note

The Include Routing and Include Components are mandatory. Set them to Yes or No as needed.

Production Order

Enter one or a range of codes to identify the production orders to print.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter one or a range of IDs to identify the production orders to print.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Batch

Specify the batch number that groups and categorizes production orders. One batch number can be assigned to many production orders.

Batch is an optional reference field that you can use for tracking production orders.

Release Date

Specify the date the production order is scheduled to release to production.

Due Date

Enter the first due date for selecting records to display. Leave it blank to begin with the first transaction date.

Item Number

Enter the item for selecting orders to print.

Scheduler

Enter a valid user name specified in Users for the person responsible for scheduling the production line.

Production Line

Enter the production line for selecting orders to print.

Shift

Specify which shift the production order is on. The value for shift can be blank, 1, 2, 3, or 4.

BOM/Formula Code

Enter a BOM or formula code for selecting orders to print.

Site

Enter a valid site code for selecting orders to print. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Order Status

Specify the order status for selecting orders to print. You can leave this field blank or set it to F (Firmed), E (Exploded), A (Allocated), or R (Released).

Include MPS/non-MPS Items

Set this field to MPS, non-MPS, or Both to indicate if production orders for Master Production Schedule (MPS), non-MPS, or both type items are considered by this function.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

The default is Both.

Include GRC Items

Set this field to Yes or No to indicate if production orders for Gross Requirements Calculation (GRC) items are considered by this function.

The default is No.

Include Phantom Items

Set this field to Yes or No to indicate if production orders for phantom items are considered by this function.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in Items.

The default is No.

Include Kanban Items

Set this field to Yes or No to indicate if production orders for kanban items are considered by this function.

Kanban items are defined in Items for use in the QAD kanban module.

The default is No.

Include WO/Rep/Both

Set this field to Discrete, Repetitive, or Both to indicate if discrete production orders, repetitive production orders, or both are considered by this function.

The default is Both.

Sequence Orders Only

Set this field to Yes or No to indicate whether to include sequence orders only.

The default is No.

Print Production Order Sheet

Select one of the following options:

- Unprinted: The system prints unprinted order sheets only.
- None: The system does not print order sheets.

- Printed: The system prints printed order sheets only.
- Both: The system prints both printed and unprinted order sheets.

This field is mandatory. The default is Unprinted.

Include Routing

Set this field to Yes or No to determine whether to print the routing information for the production order.

This field is mandatory. Set it to Yes when document review is required.

Include Components

Set this field to Yes or No to determine whether to print the components with the associated routing operations.

This field is mandatory. Set it to Yes when document review is required.

Print Attribute Profile

Set this field to Yes or No to determine whether to print attribute profiles.

The default is Yes.

Print Item Level Attributes

Set this field to Yes or No to determine whether to print item-level attributes.

The default is No.

Group Attributes by Category

Set this field to Yes or No to determine whether to divide attributes into several groups according to their categories.

The default is No.

Print Test Data

Set this field to Yes or No to determine whether to print test data.

The default is Yes.

Update Order Sheet Print Flag

Set this field to Yes or No to determine whether to update the print flag on the printed order sheet.

The default is Yes. Leave set to the default when document review is required.

Split Order Action

The objective of splitting a production order is to move certain parts of the production order to different release dates when there is material or capacity shortage for the original production order, while the rest of the production order could move on.

Note You can split discrete work orders or scheduled orders (Rep/Discrete), unless the order already has a picklist. However, you cannot split orders such as rework orders, expense orders, final assembly orders, cumulative orders, or Co-/By-product orders.

Main

When you split a production order with a large quantity, the system creates two resulting scheduled orders. The original production order becomes a cumulative order that can be referenced for traceability.

- Scheduled Orders
  - The resulted scheduled orders are of order type S (Scheduled).
  - They can be assigned to different production lines.
- Cumulative Order
  - The cumulative order is created from the original production order.
  - It gets the production order bill and routing from the original production order.
  - It exists to account for production costs for the scheduled orders.
  - It exists to trace batch history record for production.
  - It can also be referenced for lot traceability and product genealogy.

Open Quantity

The system displays the open quantity for the production order to split.

Start Qty to Split

Specify the quantity to be split off from the original production order. After you submit the splitting request, the system creates two scheduled orders.

New Release Date

You can also update the release date for the new scheduled order when you split the original production order.

Example

A production order originally has a large quantity on order of 3380. Due to a material shortage, you want to split the order into two scheduled orders, one order with a quantity of 380 and another with the remaining quantity of 3000. So you specify Start Quantity to Split as 380. After you click Submit, the system creates two scheduled orders for you, one with a quantity of 3000 and the other with a quantity of 380. The original production order now becomes a cumulative order, which gets the same ID as the original production order.

Split Order Set

You can view the order number and ID information for the resulting scheduled orders and the cumulative order in the Split Order Set panel.

Each split scheduled order has the same order number as the original production order, but with different IDs.

When you split a production order, the original production order becomes a cumulative order, which gets the same ID as the original production order.

The cumulative order exists to trace batch history for production and account for production costs for the related scheduled orders.

Note

The Split Order Set panel is only displayed when the order is discrete. When the order is repetitive, you can view the order number and ID information for the split scheduled orders and the cumulative order in the Production Orders browse.

For the cumulative order, you can modify its bill of materials and routing, and the system then updates the changes to the corresponding scheduled orders. But if the scheduled orders have been exploded, allocated, released or closed, the system cannot update the BOM or routing for the orders.

Note

A cumulative order can be deleted only when the related scheduled orders have been deleted and the accounting has been closed.

Example: Splitting a Production Order into Three Scheduled Orders

A production order can be split into two scheduled orders and the original production order itself becomes a cumulative order. What if you want to divide the production order into more than two scheduled orders? For example, the original production order has a large quantity of 3380. Due to material shortage, you want to split the order into three scheduled orders, one order with a quantity of 380 and two orders each with a quantity of 1500. In this case, you can split twice. First specify the Start Quantity to Split as 380, then split the order with the quantity of 3000 into 1500 and 1500.

The multiple scheduled orders are all organized under the cumulative order.

To divide into more small quantities, you can take an open scheduled order and split further.

Create Pack Action

Using the Create Pack function, you can create serial IDs for discrete production orders:

- Discrete orders

  When you create serial IDs against a discrete order, the serial IDs are linked with the discrete order.

- Discrete CUM orders

  When you create serial IDs against a discrete cumulative (CUM) order, the serial IDs are linked with the CUM order and the Quantity to Complete displays the total quantity of all its schedules.

- Discrete scheduled orders (Type S)

  When you create serial IDs against a discrete scheduled order whose order type is S, the system prompts you to create serial IDs against its CUM order. The system displays the production order number and ID of the CUM order instead.

After selecting a production order in **Production Orders**, you can choose Actions > (*Individual*) Create Pack, and enter receipt data, including Lot/Serial, Reference, and Address, that you plan to use in the production order receipt. Once you click Apply, the system displays the number of serial IDs required in the Serials Required field. It also displays the pack codes of the default bill of packaging (BOP) in the Pack grid, and you can then add, edit, or remove pack codes.

The Create Pack action creates a PCK-COM serial history transaction for each pack that is created. You can use the **Serial History** browse to view the serial history transaction records. Each record references the Item, Site, Address, Lot/Serial, Reference, Pack Quantity, Pack Code, and Pack UM that were specified when the Create Pack action was performed. The serials that are created by the Create Pack action are in the **New** Stage.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production order you are working on, including Production Order, ID, Item, and Quantity to Complete. These fields are read-only and stay in view even when you scroll down the page.

Main

This panel enables you to specify a production order and enter receipt data.

Production Order

Enter the production order number for which serial IDs are to be created.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the production order ID for which serial IDs are to be created.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Lot/Serial

Enter the lot/serial number to use in the production order receipt. This field uses the same logic as the production order receipt functions to obtain default values.

With the Lot/Serial and Reference fields, you can enter lot/serial and reference information that you plan to use in the production order receipt. You can still enter or update data during the actual receipt.

Reference

Enter the reference used in the production order receipt.

With the Lot/Serial and Reference fields, you can enter lot/serial and reference information that you plan to use in the production order receipt. You can still enter or update data during the actual receipt.

Address

Enter the partner associated with the transactions for which the serial IDs are created.

For example, if you create a serial ID for items to be received, you can have a specific serial ID range defined for a specific supplier by entering the supplier in the Address field. If you create a serial ID for items to be shipped, you can have a specific serial ID range for a specific ship-to or sold-to by entering the ship-to or sold-to in the Address field. If you specify a supplier, ship-to, or sold-to, it must be an existing address or site. Blank is allowed.

After you enter the production order information, the system displays more details about the production order on the right for reference, which are read-only:

- Item
- BOM/Formula
- Quantity to Complete
- Site
- Production Line

When a new production order is located and applied, the system updates the field values in this window according to this order.

Pack

The system displays serial creation information for the production order in the Pack panel.

The Serials Required field displays the number of serial IDs required for this production order. It is determined by the quantity to complete and serial hierarchy definition, including all level packaging that is determined by the BOP explosion logic.

The system also displays the pack codes of the default bill of packaging (BOP) in the grid. It lists the pack codes of all serialized levels by default, but you can click New to add, or click Delete to remove pack codes from the grid. You can also select an existing pack code record and modify its Number of Packs, Pack Quantity, and Unit of Measure.

Enter pack data in the Pack panel. The system then creates **New** packs according to the pack information in this grid.

Pack Code

Enter the pack code for which the system creates serial IDs. The default is from the master or unit pack in the BOP structure that is determined by the item (BOM), site, address, and transaction type.

You can modify the pack code. An assembly pack code is allowed. Blank is allowed when Serial Control of the item is set to M (Mandatory) in **Items**. When Pack Code is blank, the system considers it as item serialization. In this situation, the system ignores the pack quantity and UM.

Note When determining the BOP code from item packaging records, the BOM has a higher priority than the item. In other words, when alternate BOMs are in use, the system still follows the matching logic described in **Item Packaging Assignments**; however, the BOM code has a higher priority than the item.

Description

Displays the description of the pack code.

If the item on the production order is a serialized item, you can leave Pack Code blank to create serial IDs, and the system displays "Serialized Item Unit" in the Description field for this pack code. Note that if the item is not serialized, you cannot leave Pack Code blank.

Number of Packs

Enter the number of packs you want the system to create. You cannot enter a negative number. The default is calculated by the system according to the open quantity and the Quantity Per defined for this pack code in the BOP structure.

Note You can use the **Packaging Structures** hybrid view to check the details about a BOP.

Pack Quantity

Enter the expected quantity that the pack holds. You cannot enter a negative number. The default is from the Quantity Per defined for the corresponding master pack, unit pack, or inventory item level in

the BOP structure that the system determines by item (BOM), site, address, and transaction type.

If you are creating item unit serials (Pack Code = blank), Pack Quantity defaults to 1.

Unit of Measure

Enter the UM of the content the pack holds.

The default is from the item UM. When you specify an assembly pack code, the value you enter here must be a pack UM.

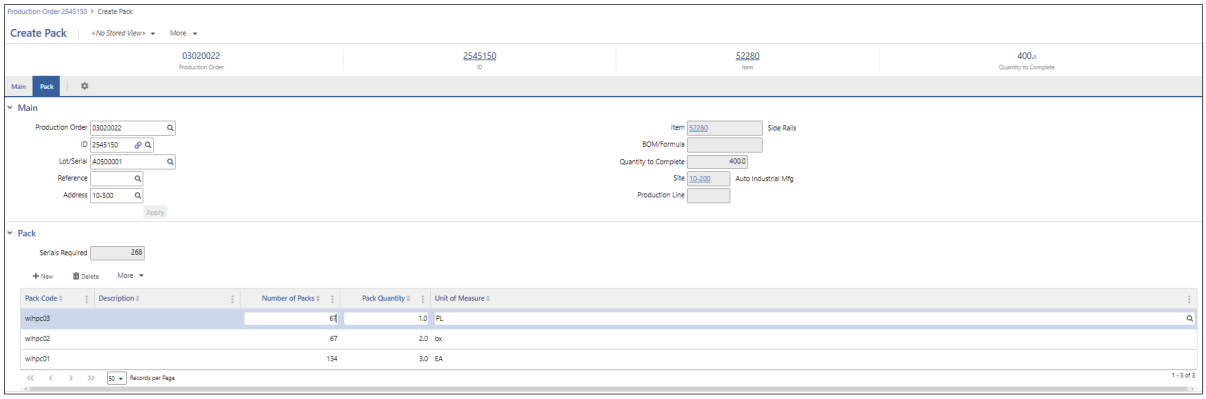
Using the Create Pack Action

You can perform the following procedures to create packs for a production order:

1. In **Production Orders**, select a production order and choose Actions > (*Individual*) Create Pack.

   The Create Pack window opens.
2. In the Main panel, set the Lot/Serial, Reference, and Address fields for the packs to be created for this production order. You can also specify another production order for pack creation. Then, click Apply.

   The system displays the Serial ID creation summary in the Pack grid below.
3. In the Pack grid, accept the default values in the pack code records, or manually update records as needed:
   - You can click New to add, or click Delete to remove pack codes from the grid.
   - You can also select an existing pack code record and modify its values:
     - You can specify the Number of Packs to be created. This value must be greater than zero.
     - You can update the Pack Quantity value. This cannot be a negative value.
     - You can change the Unit of Measure for the pack content. The default is from the item UM. If an assembly pack code is entered, the value entered must be a pack UM.



4. Click Submit to complete the transaction and create new packs.

   A Result window displays showing the number of serials created.



5. When the Create Pack action is successful, click Done to return to the **Production Orders** browse; or click Report Another to go back to the Main panel for another round of pack creation.

   Note When you select Report Another, all fields in the Main panel remain the same as last time you set them for the creation activity.

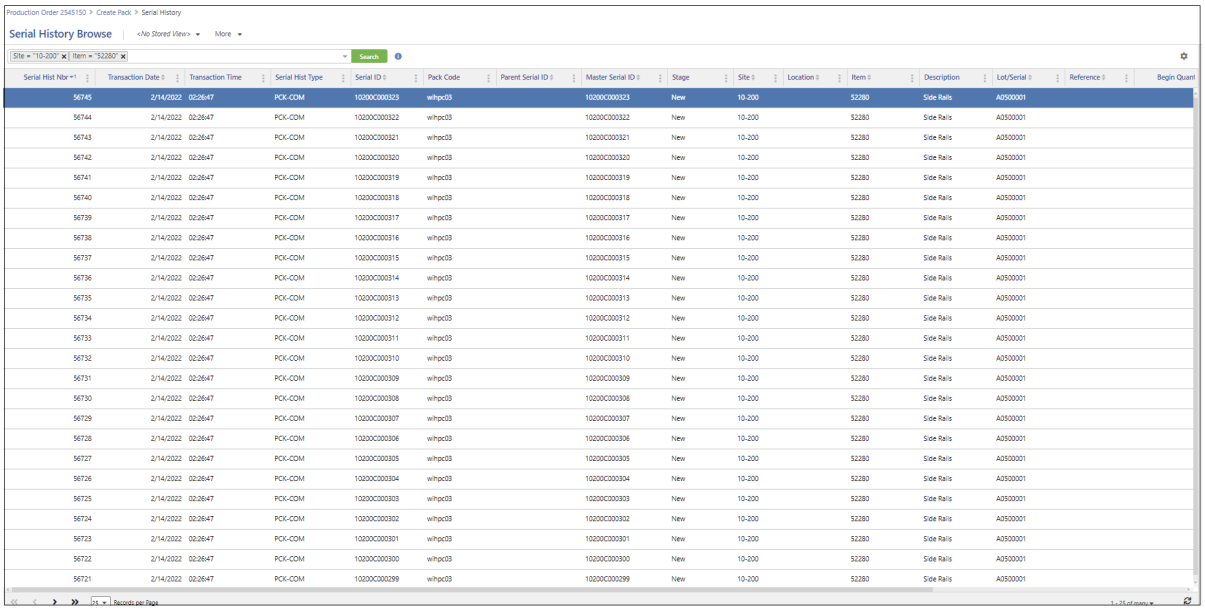
6. (Optional) When you select Report Another, you can modify the desired fields for creating packs again. You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

   - Item Packaging Assignments
   - Serial History
   - Serial Ranges
   - Serials
   - Serial Booking by Production Orders

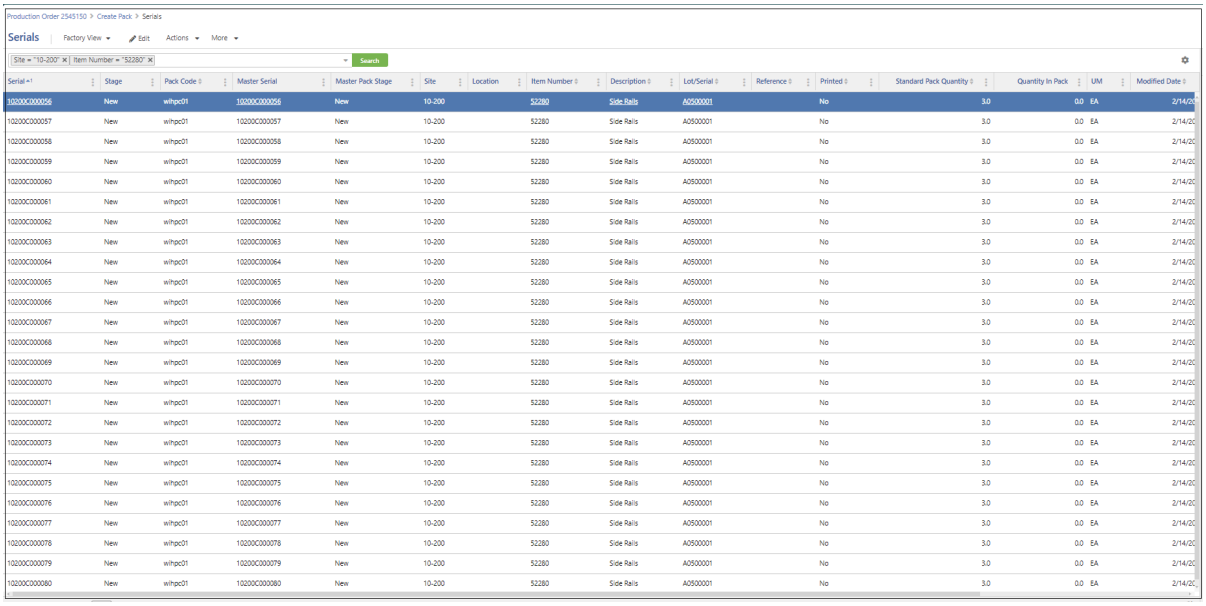
   For example, you can use the **Serial History** drill-down link to view the serial history transaction records that were created. You can also open the **Serials** view to view the newly created packs.

   Note In **Serials**, you can select a serial ID record and click the **Order Information** drill-down link to further check its order information.

Serial History



Serials



Order Information



Bulk Picklist Calculation Action

A picklist is a list of components that lets you pick, prepare, and optionally transport materials from the stockroom to support production orders and production activities on the shop floor.

There are two kinds of production-related picklists:

- Bulk item picklists: are independent from production order picklists, release, and order dispatch. Such picklists:
  - List the materials to be transferred to the shop floor for one or more production orders.
  - Can be for a group of items not necessarily representing an entire, single production order.
  - Transfer large quantities of low cost, bulk materials to the shop floor for either production order or repetitive production.
  - Are appropriate when production is supported by paperless systems and/or procedures.
- Production order picklists: let you supply materials for a production order. Such picklists:
  - List the materials for a single production order.
  - Are appropriate when production is scheduled, dispatched, and controlled using production orders.
  - Are appropriate when production is set according to contract requirements for a customer.
  - Let you optionally issued or backflush to the order before or after the order and picked quantities are dispatched to production.
  - Let you optionally transfer to a shop floor location.

Before you calculate picklists and begin picking, you must set Pick Policy. You should specify the pick policy for either a bulk item in Items or for a production order picklist as part of production order setup.

Pick Policy

Pick Policy specifies how the system processes items to supply production on either a production order picklist or on a bulk item (transfer) picklist. Pick Policy does not apply to items that do not appear on production orders. Three options are available for Pick Policy:

- No Pick: Do not pick. Select for items that are replenished on the shop floor by a process other than a picklist, such as Kanban and min/max replenishment systems.
- Transfer (default): Pick and transfer. Select for items that are picked from a stockroom location, then transferred to a shop floor

location such as a product line location or a work center location for production.

- Issue: Pick and issue. Select for items that are picked from a stockroom location, moved with a production order to shop floor, then issued to the production order.

Filter

Set the following filter criteria as needed. You can set filter criteria for site, production line, shift, item number, component item number; due, release, and issue dates; production order, ID, or order status. You can also choose whether to include production orders, repetitive orders, or both; subcontract work centers; or sequence orders only.

By default, Calculate Bulk Picklist creates one picklist per shop floor location.

Site

Enter a valid site code for selecting production orders. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Production Line

Enter the production line for selecting production orders.

Shift

Specify which shift the production order is on. The value for shift can be blank, 1, 2, 3, or 4.

Item Number

Enter the item for selecting production orders.

Component Item

Enter the component item for selecting production orders.

Work Center

Enter the work center for selecting production orders.

Release Date

Specify the date the production order is scheduled to release to production.

Due Date

Enter the first due date for selecting records to display. Leave it blank to begin with the first transaction date.

Issue Date

Specify the date a component on a production order bill is required for the production order.

Production Order

Enter one or a range of codes to identify the production orders.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter one or a range of IDs to identify the production orders.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Order Status

Specify the order status for selecting orders. You can leave this field blank or set it to F (Firmed), E (Exploded), A (Allocated), or R (Released).

Include WO/Rep/Both

Set this field to Discrete, Repetitive, or Both to indicate if discrete production orders, repetitive production orders, or both are considered by this function.

The default is Both.

Sequence Orders Only

Set this field to Yes or No to indicate whether to include sequence orders only.

The default is No.

Include Subcontract Work Center

Set this field to Yes or No to indicate if subcontract work centers are considered by this function. This field is used to filter materials from the picklists that are required for subcontract work centers.

The default is No.

Detail/Summary

Specify the level of detail on the report output.

- Detail: The report generated displays detailed information about each selected order, including detailed allocations, quantity requirements, and inventory shortages.
- Summary: The report displays summarize information about each selected order.

The default is Detail.

WIP Lot Trace Control

WIP Lot Trace

Select this option to activate the WIP Lot Trace (WLT) module.

When WIP Lot Trace is active, new fields and frames display in several programs such as Backflush Transaction, Reject Transaction, and Rework Transaction.

Use this module to monitor and trace work in process (WIP) inventory at each operation in the manufacturing process. It facilitates tracking of WIP material lot/serials sent out to multiple subcontractors and supports detailed tracking of any WIP material, as needed. This module also maintains detailed historical records.

Records maintained by this module support lot/serial tracking throughout the production life cycle:

- Relate your supplier's raw material lots to your component inventory lots
- Relate component lots to WIP inventory lots
- Relate inventory lots to finished material lots
- Relate finished lots to the customer who receives them

Lot trace functions in the Regulatory Attributes module are unaffected by the WIP Lot Trace module.

Note When you enable WIP Lot Trace, you cannot use the Recieve Order action for the Production Order in Production Operations Reporting and Production Orders Reporting.

Trace Parents

Select this option to trace all parent items; otherwise, clear the checkbox.

Note You cannot trace components or references unless Trace Parents is selected in the control program or for the routing. This value applies to all routings. Change it for specific routings in Routing Registrations. This value defaults to Trace Parents in Routing Registrations.

Split WIP Lots

Select this option if an input WIP lot can be divided into multiple output WIP lots.

Example: One WIP lot of blank bolt studs goes into a threading machine. The lot being consumed should not be split into separate

output WIP lots, such as one lot of metric-thread bolts and one lot of standard-thread bolts.

To prevent lot splitting, clear this checkbox.

This value applies to all routings. Change it for specific routings in Routing Registrations.

This value defaults to Split WIP Lots in Routing Registrations.

Combine WIP Lots

Select this option if multiple input WIP lots can be combined into a single output WIP lot.

Example: At operation 20, input WIP lot L1 is consumed into output WIP lot M1 using the backflush transaction. On the next backflush, you try to consume input WIP lot L2 into output WIP lot M1. If Combine WIP Lots is cleared, the second backflush transaction cannot proceed.

This value applies to all routings. Change it for specific routings in Routing Registrations.

This value defaults to Combine WIP Lots in Routing Registrations.

WIP Lot Number Sequence

Enter an optional sequence defined with Number Ranges. The system uses this sequence to automatically generate output WIP lot/serial numbers.

Note NRM-generated WIP lot/serial numbers cannot exceed 18 characters.

The NRM sequence ID you specify here applies to all routings. Change the NRM sequence ID for specific routings in Routing Registrations.

This value defaults to WIP Lot Number Sequence ID in Routing Registrations.

If an NRM sequence is not specified, you must manually enter output WIP lot/serial numbers.

Example: An NRM sequence ID is not specified in **Production Control** or in the routing registration record. During a backflush transaction, the WIP Lot/Serial Output Queue Receipt Data frame displays for entry of WIP lot/serial numbers. You must manually enter WIP lot/serial numbers. If you leave these fields blank, an error displays.

However, when an NRM sequence ID is specified in **Production Control** or in the routing registration record, you can leave the fields blank. The system automatically generates the next lot/serial number based on this sequence ID.

Overissue WIP Lots

Select this option if a quantity can be issued for a WIP lot even when that issue results in a negative WIP lot quantity on hand (QOH).

Example: With a WIP lot/serial QOH of 5, the system lets you issue a quantity of 7 when Overissue WIP Lots is selected. A warning tells you that this issue will result in a negative QOH balance of -2. If Overissue WIP Lots is cleared, the system displays an error message. This situation can occur when a later operation is reported before an earlier one.

This value applies to all routings. Change it for specific routings in Routing Registrations.

This value defaults to WIP Lot Overissue in Routing Registrations.

Maximum Lot Size

Enter the maximum size for WIP lots produced at any operation.

A warning message displays when the cumulative WIP lot size exceeds this quantity. Enter 0 (zero) to indicate that there is no maximum lot size restriction and to prevent warning messages from displaying.

This value applies to all routings. Change it for specific routings in Routing Registrations.

This value defaults to Max Lot Size in Routing Registrations.

Trace Components

Select this option to trace component lots consumed in manufacturing operations; otherwise, clear the checkbox.

Note To trace component lot/serials, you must also trace their corresponding parent items. This value applies to all BOM codes. Change it for specific BOM codes in BOM Registrations. This value defaults to Trace Components in BOM Registrations.

Trace Reference

Select this option to trace references assigned to component-item inventory.

Note To trace inventory references, you must also trace their corresponding component and parent items.

Example: Lot 3A of steel wire comes in three spools. Each spool is separately identified in inventory using the Reference field as Sp1, Sp2, and Sp3. When steel wire is consumed, you must enter the spool number in the Reference field during backflush. If Trace Reference is selected, the spool numbers are recorded in tracing history and display

in the Lot Where Used and Lot Actual Bill reports. They also display in transaction detail reports and inquiries.

This value applies to all BOM codes. Change it for specific BOM codes in BOM Registrations.

This value defaults to Trace Reference in BOM Registrations.

Combine Component Lots

Select this option if multiple lots of the same component or raw material can be consumed into a single WIP lot/serial.

Example: Combine Components Lots is cleared for steel. Two lots of steel, lot A and lot B, are in the store room. Lot A is processed at the first operation, becomes WIP lot W1, and is backflushed accordingly. If you try to backflush steel lot B into WIP lot W1, the system displays an error. Only one lot of steel can be consumed into WIP lot W1.

This value applies to all BOM codes. Change it for specific BOM codes in BOM Registrations.

This value defaults to Combine Component Lots in BOM Registrations.

Routing Exceptions Details

Use the Routing Exceptions panel to overwrite settings for individual routing operations. Click in Details to access the WIP Lot Routing Exceptions view.

Main Panel

Routing

Enter the routing for the exception.

Start Date

Specify the beginning effective date range for this exception.

You must enter a date between the Start Date and End Date of the corresponding routing.

End Date

Specify the ending effective date range for this exception.

You must enter a date between the Start Date and End Date of the corresponding routing.

Trace Parents

Select this option to trace all parent items; otherwise, clear the checkbox.

Note You cannot trace components or references unless Trace Parents is selected in the control program or for the routing. This value applies to all routings. Change it for specific routings in Routing

Registration Browse. This value defaults to Trace Parents in Routing Registration Browse.

Split WIP Lots

Select this option if an input WIP lot can be divided into multiple output WIP lots for all the components in the Routing Exception panel.

Combine WIP Lots

Select this option if multiple input WIP lots can be combined into a single output WIP lot for all the components in the Routing Exception panel.

WIP Lot Number Sequence

Enter an optional sequence defined with Number Ranges. The system uses this sequence to automatically generate output WIP lot/serial numbers.

Overissue WIP Lots

Select this option if a quantity can be issued for a WIP lot even when that issue results in a negative WIP lot quantity on hand (QOH) for all the components in the Routing Exception panel.

Maximum Lot Size

Enter the maximum size for WIP lots produced at any operation.

A warning message displays when the cumulative WIP lot size exceeds this quantity. Enter 0 (zero) to indicate that there is no maximum lot size restriction and to prevent warning messages from displaying.

This value applies to all routings. Change it for specific routings in Routing Registrations.

This value defaults to Max Lot Size in Routing Registrations.

Lot Trace Start Operation

Enter the operation where WIP lot tracing should begin for the specified routing code.

The default is 0 (zero). Leave this value to begin WIP lot tracing at the first operation in this routing.

Any component material consumed at operations prior to the operation specified here is not traced. The system does not prompt for input WIP lots at this operation. It prompts for input and output WIP lots at the operations that follow.

Serialized WIP Start Operation

Enter the operation at which serial tracing should begin.

Serial tracing cannot begin before WIP lot tracing begins. It must begin on or after the operation specified in Lot Trace Start Op.

Leave the default value of 99999 to indicate that serial tracing should not occur.

For WIP lots to be serial traced, transaction quantities can only be -1, 0, or 1, and WIP lot quantity-on-hand (QOH) balances must be 0 or 1.

Example: For a manufacturer of a pharmaceutical, serial tracing begins at the bottling operation, but WIP lot tracing begins at the first operation where lot-controlled ingredients are consumed. For a manufacturer of specialized components for medical equipment, serial tracing begins at the first operation that consumes a serial-controlled component.

Operation Exceptions Panel

Operations

Enter the routing operation.

Split WIP Lots

Select the checkbox to enable the splitting of the WIP Lots for the operation.

Combining WIP Lots

Select the checkbox to enable combining the WIP Lots for the operation

Overissue WIP Lots

Select the checkbox to enable the overissue of the WIP Lots for the operation.

Product Structure Exceptions Panel

Use the Product Structure Exceptions panel to overwrite settings for individual components. Click in Details to access the WIP Lot Product Structure Exceptions view.

Main Panel

BOM

Enter the BOM for the exception.

Start Date

Specify the beginning effective date range for this exception.

End Date

Specify the ending effective date range for this exception.

Trace Components

Select this option to trace component lots consumed in manufacturing operations for all the components in the Component Exception panel; otherwise, clear the checkbox.

Note To trace component lot/serials, you must also trace their corresponding parent items. This value applies to all BOM codes. Change it for specific BOM codes in BOM Registrations. This value defaults to Trace Components in BOM Registrations.

Trace Reference

Select this option to trace references assigned to component-item inventory for all the components in the Component Exception panel

Note To trace inventory references, you must also trace their corresponding component and parent items.

Combine Component Lots

Select this option if multiple lots of the same component or raw material can be consumed into a single WIP lot/serial for all the components in the Component Exception panel.

Component Exception Panel

Component

Select the component of the BOM to apply the restriction.

Trace Components

Select the checkbox to enable trace component lots consumed in manufacturing operations for the individual component.

Trace Reference

Select the checkbox to enable trace references for the individual component.

Combine Component Lots

Select this option if multiple lots of the same component or raw material can be consumed into a single WIP lot/serial for the individual component.

WIP Lot Inventory Status

How to use WIP Lot Inventory Status

You can filter WIP lots in the browse using the following:

1. Go to WIP Lot Inventory Status
2. Enter the following applicable search information:
    - Item
    - Site
    - Production Orders
    - ID
    - Lot/Serial
    - Work Center
    - Machine

      Note Leave blank to include all WIP Lots
3. Click **Search**

Production Order BOMs

You can modify a production order bill:

- To add or delete components
- To change quantities
- To change dates
- For engineering changes that require immediate implementation for all work-in-process, including orders that have been exploded, allocated, or released

Final assembly orders use production order bills equal to sales order bills. When the sales order configuration is changed, make the same changes to the production order bill.

When the production order quantities change after production order release, the quantity required for each item number increases automatically based on the standard quantity per, and is allocated. You can generate a picklist for the incremental quantity.

Normally, Material Planning plans all components to be available on the release date of the production order. If items should be available earlier or later, specify a lead-time offset in Product Structures or manually override the production order bill issue date.

The **Production Order BOMs** view allows you to view production order bill details as well as lets you drill down into related data.

You can access **Production Order BOMs** by choosing Production > Production Order BOMs. In this stand-alone **Production Order BOMs** view, you can edit and delete components, but are not allowed to add components.

Alternatively, you can access **Production Order BOMs** from the Bill of Materials panel in the **Production Orders** view, and then edit and delete components. In this case, New is also available in the **Production Order BOMs** view, enabling you to create more components.

Note

The **Production Order BOMs** view is read-only for repetitive production orders, but you can reconfigure the fields on the Material Handling panel for repetitive production orders when the order status is E (Exploded).

The **Production Order BOMs** view is read-only for discrete production orders when the order status is P (Planned), F (Firmed), or C (Closed). You can edit the fields on the Material Handling panel for discrete production orders when the order status is E (Exploded).

Batch Balancing

Perform Batch Balancing to ensure that all components in a formula are adjusted proportionally to meet a target batch size, yield, or capacity constraint, while maintaining product consistency and complying with regulations or quality standards.

You can use batch balancing to:

- Maintain product quality and regulatory compliance.
- Support scaling batches without manual recalculation.
- Enable real-time adjustment if input materials vary (for example, in potency or concentration).
- Ensure complete usage of containers (e.g. tanks, mixers).

To complete the batch balancing, follow these steps:

1. Create a Production Order with a status of Allocated, Exploded, or Released.
2. Go to Production Order BOMs, and search for the required Production Order.
3. Select More > Export.
4. Enter a File name and select Type = Export With Import Format and click Export.
5. Download the Excel file export from the inbox.
6. Update the applicable fields.

   Note You can use macros or formulas to update your data, as long as you retain the default formatting in the Excel Spreadsheet.
7. In Production Order BOMs, select More > Import.
8. Click Choose File, select the Excel File and click Import.
9. After the file is successfully imported, you recieve a notification in the inbox, and you will see the changes reflected in Production Order BOMs.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the component you are working on, including Production Order, ID, Component, Operation, Quantity Required, Quantity Issued, and Issue Date. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists details of a specific component item.

Component

Enter the code identifying a component item required for this production order.

Production order component information prints on picklist documents and most other reports and inquiries, in particular, Production Order Component Issue.

When a production order is entered, the bill of material (BOM) code specified determines which component items are required. When the production order is exploded, the production order bill is created by copying this standard bill. After it is copied, the production order bill can be modified specifically for this production order. You can adjust quantities, allocate specific locations or lots, and add or subtract component items.

A final assembly production order, created by releasing a sales order for a configured product, uses the sales order bill, listing the components selected for that specific configuration. If the sales order is changed later, modify the production order bill to reflect the change.

When a production order is closed, the system calculates production order rate and usage variances. Rate variance reflects differences in cost caused by issuing different items or by issuing them at a different cost. Usage variance is an efficiency variance, calculated as the difference between the actual quantity of components issued and the standard quantity required.

These variances are calculated based on the production order bill. Add any additional components you plan to use to the bill. Otherwise, their issue is treated as unplanned and the cost updates usage variance.

This is particularly important when you are using rework or expense production orders, since they do not have a standard bill. Add the components to the bill before issuing them.

Description 1

This field is read-only and displays the primary description of the component set in Items.

Description 2

This field is read-only and displays the second description line set in Items for extra or supplementary information on the component.

Operation

Enter a number to identify the operation defined for the component in the production order.

Each routing consists of a series of operations. Operation numbers must be unique within a routing. Routing operations are always printed in ascending sequence by operation; for example, operation 20 follows operation 10. QAD recommends you number operations by

10s or 100s. In this way you can add new intermediate steps without renumbering the existing ones.

Quantity Required

Specify the quantity of this component item, including expected scrap, you expect to use to complete this production order.

When the production order bill is exploded, quantity required is set to the standard component quantity per multiplied by the production order quantity, and then adjusted upward to account for any scrap percentage on the bill.

The quantity required can be a decimal value. If the item is only issued in discrete units (using whole number quantities), modify the quantity required.

If you expect to use more or less of this item than it is stated, modify the quantity required on the production order bill. Otherwise, production order variances will be calculated incorrectly.

When a production order is closed, the system calculates the production order rate and usage variances. Rate variance reflects differences in cost by issuing different items or by issuing them at a different cost. Usage variance is an efficiency variance, calculated as the difference between the actual quantity of components issued and the standard quantity required.

These variances are calculated based on the production order bill, so add any components you plan to use to it. Otherwise, their issue will be treated as unplanned and the cost written off to usage variance.

This is particularly important when using rework or expense production orders, since they do not have a standard bill. Add the components to the bill before issuing them.

Quantity Allocated

Enter the quantity allocated to this production order. The quantity allocated cannot be greater than the quantity required.

Component items are automatically allocated, based on their allocation policy, by the system when the production order status is changed to A (Allocated). This field indicates general allocations, reserving components for this order by reducing the quantity available to allocate. The items are not physically picked or issued, just flagged as allocated.

When inventory status displays, the quantity available to allocate appears with the quantity on hand. This is useful for preventing sales orders from being taken for component items needed by manufacturing. Other production orders could be processed, since production order allocations are not restricted by quantity on hand or available.

There are two types of allocations: general and detail. General allocations allocate the required quantity of an item. This field is the

quantity general allocated. Detail allocations specify the site, locations, lot/serial numbers, and lot references from which that quantity is to be allocated.

The system automatically generates detail allocations for components with an allocation policy set to Detail when production orders are allocated.

Quantity Per

Specify the quantity of this component item called for in the standard bill of material.

When components are issued to a production order, material costs are posted to WIP as the quantity issued multiplied by the GL cost.

When the production order is closed, usage variance can be calculated. Usage variance is an efficiency variance, calculated as the difference between the actual quantity of each component issued and the standard quantity required, multiplied by the GL cost of that component.

This variance reflects any difference between the standard quantity required at the time the production order was exploded and the standard quantity required now.

Unit Cost

Enter the total GL cost of this component item when the production order was exploded. The system uses the cost to calculate material rate variances.

When you issue components to a production order, material costs post to WIP as the quantity issued multiplied by the GL cost of the material. At the same time, any rate variance is calculated and posted.

Rate variance reflects differences in cost caused by items issued at a different cost (for example, from a different site). It is calculated as the difference between the GL cost of the materials actually used and the GL cost of the material required. When using production orders, the GL cost of each component is copied into the production order bill at the time the production order is released. Should costs subsequently change, this will result in material rate variances.

If costs change, you can use WIP Material Cost Revaluation to update frozen production order costs to reflect the new GL cost. If you have changed this cost manually in Production Order BOMs, WIP Material Cost Revaluation resets the Unit Cost to standard and posts a Material Rate Variance for the difference on the production order.

Key Item

Indicate whether this item must be available before a production order can be released. This field defaults from Items.

You can neither release a production order nor remove or print a picklist when the on-hand quantity of a key item is insufficient. An error message displays. You can adjust the order quantity manually to ensure that you can complete the order.

Key items are typically difficult to obtain. They may have long lead times or may be in short supply. Only a few items should be designated as key items. For example, glass is a key item for a window manufacturer. When there is not enough glass available to fill an order, the order cannot be started.

Issue Date

The date a component on a production order bill is required for the production order. The issue date is determined by the operation defined for the product structure component, and the system sets it to the Start Date for the production order routing operation. When the product structure component operation is not specified (blank), the system sets the issue date to the Start Date for the first production order routing operation.

The system automatically reschedules production order operations, together with the issue dates for production order components, updating the start and due dates for operations when modifying the production order due date, quantity to complete, quantity to start, and/or estimated yield percent. This rescheduling process is needed to update the load that production orders present against work center capacity.

Quantity Picked

This field is read-only in the Production Order BOMs view and displays the quantity printed on a picklist for this component item.

When a picklist is printed, the system updates the quantity picked, ensuring that the same quantity is not printed again on the next picklist printed for this order.

Quantity Picked can be displayed as the default quantity to issue during the Production Order Component Issue function, simplifying the entry of issues.

If component quantities are increased or new components are added to the production order bill, another picklist can be printed listing only these quantities.

Quantity Issued

The total quantity of this component issued to this production order.

This is a system-maintained field increased each time this component is issued (or backflushed) to this production order. Total quantity issued is compared to the standard quantity required to determine production order usage variance.

Material Handling

The Material Handling panel consists of the following fields:

Allocation Policy

This field is the value for Allocation Policy, Pick Policy, Issue Policy, Transfer Allocation Policy, and other parameters for the component item that displays on the production order bill. Values are maintained using Items.

The system displays one of the following allocation policies for the component item:

- Detail: Select Detail to have production order and bulk item picking processes and picklists determine and direct the picking of inventory quantities from specific locations and/or lots. The system creates detail allocation for inventory quantities when a production picklist is created for the production order.
- General: Select General to have production order and bulk item picking processes and picklist identify the item and quantity to pick, and not quantities from specific locations and/or lots. The system creates general allocations for the item and site when the status of the order is changed to Allocated or Released and when a production picklist is created for the production order. Allocation policy is not used for non-production picklists, such as those for sales and distribution orders.

Pick Policy

This field is the value for Allocation Policy, Pick Policy, Issue Policy, Transfer Allocation Policy, and other parameters for the component item that displays on the production order bill and as maintained using Items.

The system displays one of the following pick policies for the component item:

- No Pick: Component items are not put on the pick list. Component items where the issue policy is not set to No Issue can be detail allocated but are not assigned a picklist number and are not allocated as picked.
- Issue: Component items appear on a production order picklist with the intent to directly issue the component to the order.

- Transfer: Component items can appear on either a bulk item picklist or on a production order picklist with the intent to transfer the items to the work center.

Issue Policy

This field is the value for Allocation Policy, Pick Policy, Issue Policy, Transfer Allocation Policy, and other parameters for the component item that displays on the production order bill as maintained using Items.

The system displays the Issue Policy for the component item as one of the following:

- Backflush: Component inventory for the item is consumed by production by using production backflush transactions.
- Direct: Issue Direct to Order. Use this to issue component items directly to a production order (as opposed to backflushed). Items with this Issue Policy display in Production Order Picklist Issue and Production Order Component Issue.
- No Issue: Component items are floorstock and are not consumed by production and not processed by inventory transactions.

Transfer Allocation Policy

This field is the value for Allocation Policy, Pick Policy, Issue Policy, Transfer Allocation Policy, and other parameters for the component item that displays on the production order bill and as maintained using Items.

This field is not editable.

This field specifies the transfer allocation policy for production materials that are transferred to shop floor locations. Transfer Allocation Policy works together with Pick Policy when the Pick Policy for an item is Transfer. The transfer allocation policy determines if the system retains or removes detail allocations for inventory quantities for the item that are transferred when using Production Picklist Transfer.

The system displays one of the following transfer allocation policies for the component item:

- Keep: Retains detail inventory allocations for the item and production order after quantities have been picked and transferred using Production Picklist Transfer. Specify to Keep allocations when the lot/serial quantities to be issued or backflushed to a production order are the same as the lot/serial quantities that are picked and transferred using a production picklist.
- Drop: Removes detail inventory allocations created for this component item and production order after quantities have been picked and transferred using Production Picklist Transfer. Specify to Drop allocations when the lot/serial quantities to be issued or

backflushed to a production order are independent from the lot/serial quantities that are picked and transferred using a production picklist.

The system also examines detailed allocations at the backflush location to determine if there is any excess inventory. When Transfer Allocation Policy is set to Drop, the system considers the earlier transfers for other orders as implicitly allocated when determining the excess inventory.

Note

Transfer Allocation Policy is not used for non-production picklists, such as those for sales and distribution orders.

When the system transfers the inventory from its current location to the shop floor, the system can retain or drop the allocation based on Transfer Allocation Policy.

Action

Production Order Manual Allocation Action

Select a component item and then choose Actions > *(Individual*) Allocate to run Production Order Manual Allocation. This function enables you to manually update detail allocations for a component item on a production order.

Note You can also click Allocate on the Bill of Materials panel in **Production Orders** or **Production Order Routings** to run this function.

You can only allocate for production orders with a status of F(irm), E(xploded), A(llocated), or R(eleased). When the order status is F, a warning displays indicating the status updates to E when the system creates allocations.

You can specify the quantity you want to allocate for each component/operation. The system creates the allocation. When you enter a location/lot/ref that is already allocated or picked for the component, the system displays values in the Qty Allocated and Qty Picked fields. Qty Picked is read-only; however, you can modify the existing value in the Qty Allocated field. When you do, the system updates the Quantity To Allocate value in the Summary panel accordingly.

The phantom-use up logic now applies to global phantom items whose allocation policy is set to Detail. When the order status is E, A, or R, you can manually allocate phantom items by using this function. Then the system:

- Changes Qty Required of the phantom item to the quantity actually allocated to it.
- Changes Qty Required of the phantom components accordingly.
- Does not apply the phantom use-up logic if the issue policy of the phantom item is set to No Issue.

Note For more details about phantom items and the phantom-use up logic, see .

After you choose Actions > *(Individual*) Allocate, the **Allocate** window displays, allowing you to create a new detail allocation record, and edit or remove an existing record. You can also click Auto-Allocate to open the **Auto Allocation** window, where all inventory available at the order site are listed including those you have manually entered in the **Allocate** window.

The Summary panel displays key information about the component to allocate, including Component, Operation, Quantity to Allocate, and Issue Date.

The Detail Allocation grid displays the following fields:

- Location

  Enter the location code associated with this inventory transaction. Location codes identify physical locations where inventory is stored. Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

- Site

  The Site value defaults from the production order of this component item.

- Lot/Serial

  The lot/serial number associated with this inventory quantity.

- Reference

  Enter a reference number to associate with the specified item quantity. For example, this can be the production lot of the item or a location reference such as a pallet number. Reference numbers are optional.

- Qty Available

  This field is read-only and displays the quantity of units in inventory, which are available for allocation. The Qty Available value changes depending on the Qty Allocated value.

- Qty Allocated

  Enter the quantity you want to allocate for each component/operation. The system then creates the allocation.
  You cannot enter negative quantities for allocation. When allocations are changed, the system automatically updates the associated picklist if it exists.
  When you enter a location/lot/ref that is already allocated or picked for the component, the system displays a value in this field; however, you

can modify the value. When you do, the system updates the Quantity To Allocate value in the Summary panel accordingly.

- Qty Picked

  This field is not editable, and displays the quantity picked.
  When you enter a location/lot/ref that is already allocated or picked for the component, the system displays a value in this field.

- Expire Date

  The expiration date associated with this specific inventory quantity.

- UM

  The unit of measure for stocking and planning this item.

- Attribute Status

  When the component is associated with item attributes, the Attribute Status field shows its attribute status, which could be Conforming or Non-conforming. If the component is not associated with item attributes, the Attribute Status field is left blank.
  When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Attribute Status cell in yellow. If you click Submit when the inventory being allocated is non-confroming (with Attribute Status of Non-conforming), the system displays a confirmation message, saying "Inventory attribute values not conforming with order."

- Backflush Location

  Indicate whether the location for the inventory is a backflush location.

- Reserved Location

  Indicate whether the location for the inventory is a reserved location.

Production Order Routings

You can modify a production order routing:

- To add, edit, and delete operations
- To modify the work center and machine
- To change the operation status
- To modify production order routing fields and parameters that impact scheduling and cost
- To change the operation start and end dates
- For engineering changes that require immediate implementation for all work-in-process, including orders that have been exploded, allocated, or released

The **Production Order Routings** view allows you to view production order routing details as well as lets you drill down into related data.

You can access **Production Order Routings** by choosing Production > Production Order Routings. In this stand-alone **Production Order Routings** view, you can edit and delete operations, but are not allowed to add operations.

Alternatively, you can access **Production Order Routings** from the Routing panel in the **Production Orders** view, and then edit and delete operations. In this case, New is also available in the **Production Order Routings** view, enabling you to add more operations to the routing.

On the Bills of Materials panel of the **Production Order Routings** view, you can also maintain components used in a specific operation.

Note

The **Production Order Routings** view is read-only for repetitive production orders.

The **Production Order Routings** view is read-only for discrete production orders when the order status is P (Planned), F (Firmed), or C (Closed).

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the operation you are working on, including Production Order, ID, Operation, Work Center, Run Complete, Quantity Ordered, and Start Date. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel lists the details of a specific operation in the production order routing.

Operation

Enter the operation number identifying a manufacturing step required for this production order.

Standard Operation

Enter the valid standard operation code that identifies a process operation common to several products or applicable to different routings in different sequences.

Description

The description of the production operation, determined by routing operation, as determined by the routing code for the production order.

This description prints on most reports, inquiries, and printed shop documents.

Work Center

Specify the work center where this operation is normally performed. It is the work center for the routing operation, as determined by the routing code for the production order.

The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

When a dispatch list is printed, this operation displays for this work center. When labor is reported, this work center displays as the default, but can be changed manually if the work was performed at a different work center.

If work is reported at a different work center than planned, any difference in work center labor or burden rates is written off as a production order rate variance.

Machine

The machine normally performing this operation.

When a dispatch list is printed, this machine displays for this work center. When labor is reported, this machine displays as the default, but can be changed manually if the work was performed at a different machine.

If work is reported at a different machine than planned, any difference in labor or burden rates is written off as a production order rate variance.

Machines per Operation

The number of machines at this work center that can work at the same time to process a given operation.

Machines per operation is defined for each work center.

The Machines per Operation field affects scheduling of operations that occur at this work center machine. During scheduling, the system uses the operation run time divided by the Machines per Operation.

Alternatively, you can use this field to indicate multiple people to operate one machine.

Standard Setup Time

The standard time, in decimal hours, it takes to prepare this work center to carry out this operation, independent of order quantity.

Standard Run Time

The time in decimal hours, or an hourly production rate (units/hour). This field represents the time that normally takes to process one unit at this operation.

Quantity Ordered

The scheduled quantity to start for the production routing operation.

Run Complete

The quantity completed at this operation—the number of good items received not including any scrap or reject quantity.

Quantity Scrap

The quantity removed from work-in-process as scrap from an operation.

Quantity Rework

This display-only field indicates the quantity that has been subjected to rework processing, after it had been rejected at that operation.

When a quantity is reported as rejected at an operation, it can be moved to either the reject queue of that operation, or back into either the input queue or output queue of the previous operation.

The quantity rejected can later be reported as having been reworked. Once a quantity is reworked, it can subsequently be reported as completed, and moved to the next operation, or alternatively it can be reported as scrapped from the operation.

Start Date

The date the production order routing operation is scheduled to begin.

Production order routing operation start and due dates are scheduled for production orders by using data defined for the routing operation, work center, and calendars set up for the domain, site, production line,

and/or work center. The start and due dates for production operations are calculated by exploding the production quantity to determine the queue, setup, run, and wait times required for each the operation.

You can manually adjust the start and due dates for production order routing operations by using views such as Production Order Routings. The production routing operations, together with the start and due dates for each operation, are used to determine the load on work centers in the Production Scheduling Workbench and CRP.

The system automatically reschedules production order operations, updating the start and due dates when modifying the production order due date, quantity to complete, quantity to start, and/or estimated yield percent. This rescheduling process is needed to update the load that production orders present against work center capacity.

Due Date

The date this production order operation is scheduled to be completed.

The system schedules production order routing operation start and due dates by using data defined for the routing operation, work center, and calendars set up for the domain, site, production line, and/or work center. The system calculates start and due dates for production operations by exploding the production quantity to determine the queue, setup, run, and wait times required for each operation.

You can manually adjust the start and due dates for production order routing operations by using views such as Production Order Routings. The production routing operations, together with the start and due dates for each operation, are used to determine the load on work centers in the Planning and Scheduling Workbenches and CRP.

The system automatically reschedules production order operations, updating the start and due dates when modifying the production order due date, quantity to complete, quantity to start, and/or estimated yield percent. This rescheduling process is needed to update the load that production orders present against work center capacity.

Actual Setup Time

The actual time, in decimal hours, spent setting up this work center for this operation. The sum of all reported setup hours.

Actual Run Time

The actual time, in decimal hours, spent working on this operation, apart from setup time. The sum of all reported run time.

Operation Options

The Operation Options sub-panel consists of the following fields:

Milestone Operation

Specifies whether you can report completions at this operation. Completions initiate a backflush for this and all previous non-milestone operations, back to but not including a previous milestone.

The system assumes the last operation is a milestone, regardless of what is in this field.

Auto Labor

When this check box is selected, it indicates the system automatically reports standard labor for run time for quantities reported as backflushed for that operation, as well at each prior non-milestone operation. These hours are shown as the default reported hours for run labor on production transactions.

Do not select this check box if you do not want to have the default run labor on production transactions from quantities that are reported as backflushed for an operation.

Move Next Operation

Select this check box or not to determine the default for the same field in Move Transaction. When you enter a transaction, the system moves either the quantity ordered or the quantity reported complete at the last operation to the operation being reported. Which quantity displays depends on the setting of Move Next Operation for the previous operation. The quantity open for an operation is this starting quantity minus the quantities completed and rejected at that operation.

Visible In QAD PE

Select or clear this checkbox as needed.

The field is used as a filter for downloading operations from EE to Production Execution. The system downloads all operations whose Visible In QAD PE field is selected, from EE to PE. When a production order is created or exploded, the system copies the setting of this field from the Routing Operation Detail table (ro_det) to the Production Order Routing table (wr_route).

By default, the Visible In QAD PE field is hidden in the factory view. You need to click the gear icon and manually configure the view to display the field. Then this field is available in the Operation Options sub-panel. Note that the Visible In QAD PE field is editable only when the Milestone Operation checkbox is not selected. If Milestone Operation is selected, Visible In QAD PE is automatically selected and is read-only.

Note The Visible In QAD PE field is also supported in the **Production Orders** view. You can click the gear icon and manually configure the view to display the field in the Routings grid of **Production Orders** . You can click Details above the Routings grid to launch the **Production Order Routings** details page for further .

Additional Details

The Additional Details sub-panel lists additional information of an operation.

Status

Specify the current status of a production order operation, for tracking the order through the manufacturing process. It can be updated through this program or automatically when reporting activity for the production order. Operation status displays on most reports and inquiries.

Values are blank, Q, S, R, C, or H:

- Blank. When a production order is first exploded, all operation status codes are blank.
- Q (Queue). The operation is waiting to be set up and run at the designated work center. Usually when a production order is released, it is moved into queue at the first operation. When an operation is completed, it can be moved into queue at the next operation automatically.
- S (Setup). The work center is in the process of being set up to run this operation. Status is changed to S when setup time is recorded.
- R (Running). This operation is in process. Status is changed to R when run time is recorded.
- C (Complete). This operation is complete. This can be set automatically when reporting labor for this operation, or at operations after this one.
- H (Hold). This operation is on hold, perhaps waiting for a machine to be repaired or waiting for components. This can only be updated manually using Production Order Routings.

Move Time

Enter the time, in decimal hours, required to move work from this operation to the next operation.

Since move time is often dependent on what the next operation is, this normally is changed on each routing or process operation.

Move time is not adjusted by the system to reflect differences in order quantity. It can be changed manually for the production order operation.

Queue Time

Enter the amount of time, in decimal hours, a job normally waits at this work center before this operation is set up and processed. Queue time defaults from the work center.

Queue time is one component of the operation lead time. When scheduling production order operations, the system uses setup and run times to determine the operation duration. The interoperation lead time is calculated based on the first operation's wait and move times and the following operation's queue time.

Queue time is independent of order quantity and can be compressed in past-due situations. When the system uses backward scheduling, it works backward from the order due date to determine a scheduled start date. If the start date is before the current date, you may want to reschedule by reducing or eliminating queue time.

When scheduling operations, the system looks at the shop calendar for the work center to determine the maximum number of hours available for queue time in each calendar period.

Wait Time

Enter the standard wait time in decimal hours that a job normally spends waiting at this work center after processing has been completed.

This value displays as the default whenever you enter a standard operation, routing operation, or process operation that references this work center. It can be changed.

Total manufacturing lead time includes queue, setup, run, wait, and move time. Lead time is used for operation scheduling and capacity requirements planning. Wait time is independent of order quantity. An order must wait at least this long before it can go on to the next operation and it cannot be skipped in past due situations: wait time may be required for drying, cooling, aging, or curing.

Wait time is expressed in hours and is not affected by the shop calendar. If the factory is shut, this type of process continues.

Setup Crew

The number of people normally required to set up this operation.

This field is for reference only and can appear on some selected reports and inquiries.

No scheduling or cost calculations use setup and run crew.

Run Crew

The number of people normally required to run this operation at this work center.

This field is for reference only and can appear on some selected reports and inquiries.

No scheduling or cost calculations use setup and run crew.

Overlap Units

The number of units that must be completed at this operation before work can begin at the next operation.

Operation overlap is considered by scheduling algorithms, usually with the effect of reducing overall manufacturing lead time. For example, if the overlap quantity is 10, the system schedules only enough time to setup, run, wait, and move 10 items before starting the next operation. If the processing time at the next operation is longer than at the first, overall lead time is reduced.

If overlap is not used, overlap quantity should be zero.

Yield Percent

The yield percentage for this production order operation. Yield is the percentage of any order expected to be in usable condition after this operation.

For the yield calculation, the system calculates component requirements based on either the parent item yield percentage or the yield associated with each operation in the parent's routing.

Tooling

Specify a code identifying the tool normally used by this operation. This field is validated against predefined values entered in Generalized Codes, if any.

This field is for reference only and can appear on some selected reports and inquiries.

Subcontract

The Subcontract panel allows you to set attributes about the subcontract processing, if any.

Subcontract Cost

Enter the cost per unit charged by the subcontractor to perform this operation.

The default is the standard subcontract cost defined in **Routings** and is only needed for subcontract operations. When the actual subcontract cost differs from the standard cost, entering the actual cost prevents

Prod Order Accounting Close from generating a subcontract price variance.

Cost calculation functions determine item costs based on subcontract cost. Enter either subcontract cost and lead time or setup, run, and move time. Specifying both can overstate cost and lead time and result in incorrect schedules.

Subcontract Lead Time

Enter the average number of calendar days it normally takes a subcontractor to perform this operation.

Subcontract Complete

The actual quantity of items received for this subcontract operation.

When operations are subcontract, a purchase order is issued that references the production order ID and operation. When these subcontract items are received, the quantity and cost are recorded. These are used for calculating subcontract rate and usage variances.

Supplier

The code of the supplier for this subcontract operation. It defaults from the standard routing operation.

Purchase Order Exists

Indicates if there are any Subcontract Purchase Orders created for the operation.

- **Yes.**Indicates that a subcontract purchase order has been created for the operation.
- **No.** Indicates that a subcontract purchase order needs to be created for the operation.
- **N/A.** Indicates that this is not a subcontract operation and that a subcontract purchase order does not need to be created for this operation.

Queue Status

The Queue Status panel lists information about the input, output, and rejected queues as well as the corresponding quantities for you to view.

Bills of Material

The Bill of Materials panel lists the details of the components involved in the operation of the production order.

The Bill of Materials panel allows you to click New to create more component items, or select an existing record and click Edit or Delete to modify or remove it. This panel also allows you to click Details to open the **Production Order BOMs** hybrid view to maintain BOMs.

Note

For repetitive production orders and scheduled orders, you cannot add, remove, or modify components on this panel.

You can also click Allocate on this panel to manually update detail allocations for a component item on a production order. For details about the manual allocation function, see the Production Order Manual Allocation Action description in Production Order BOMs on page 3554.

Notes

The Notes panel allows you to manage note records.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this operation in the production order routing.

You can create multiple records with different page numbers to add notes for one operation.

Note The Notes panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Note In the detailed Notes view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Prod Order Routing Actual Setup Utility

The operation history table (op_hist) is used to accumulate actual setup time from labor transactions and this utility will optionally report or update the accumulated time onto the work order routing record (wr_route). Planned orders and work order accounting closed orders are not updated or reported by this utility.

Note This utility is for support purposes only and should only be used if support has requested this to be run.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Site

Enter a range of sites to include. Leave blank to include all sites.

Production Order

Enter a range of production orders to include. Leave blank to include all orders.

ID

Enter a range of production order IDs to include. Leave blank to include all orders.

Item

Enter a range of items to include. Leave blank to include all items.

Order Status

Enter a valid order status. Valid order statuses are: Planned, Firmed, Exploded, Allocated, Released, or Closed.

Update

Select Yes to run this program in update mode and update records in the database.

Select No to run this program in simulation mode without updating the database.

Click **Run**.

Production Line Update

Note Run this utility only if you used the Repetitive module prior to implementing the Operations Plan module or Planned Repetitive Schedule Approval.

Operations planning calculates production requirements for items. It can then distribute these requirements directly to repetitive production lines.

By default, operations planning assumes that every item has a primary line that supplies 100% of its production requirements.

Production Line Update links every operations planning item with a production line that it designates as the primary line. In Production Lines, it activates the Primary Line field and sets it to Yes.

Planned Repetitive Schedule Approval approves the MRP plan, generating a production line sequence schedule for the planned order.

Production Line Update links every production line with its associated line allocation. If there is not any line allocation for a production line, there will be a 100% allocation to the primary production line created. If there are existing allocations, these will be cleared and again a 100% allocation is made to the primary production line.

If an item has multiple production lines, the utility designates the line with the lowest alphanumeric code. You must run Production Line Update before you implement production line allocation records.

If an item is produced on multiple lines, you can split production between lines by percentage in Item Production Lines.If you later move an item's production to another line, change Primary Line to Yes for the new line. This action will automatically reset Primary Line to No for the old line.

Assign security to this program to prevent people from overwriting the primary line designation.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Site

Enter a range of sites. Leave blank to include all sites.

Item

Enter a range of items. Leave blank to include all items.

Update

Select Yes to run this program in update mode and update records in the database. Select No to run this program in simulation mode without updating the database.

Click **Run** to continue.

Repetitive Cumulative Orders

The system keeps a running total for each combination of items, sites, production lines, product structures, and routings using a cumulative order. The cumulative order tracks work-in-process (WIP) costs and quantities for repetitive production. A cumulative order is created for a profile that defines the site, item number, production line, routing code, BOM/formula code for the order, and start and end effective dates.

Cumulative orders account for the cost of repetitive production. The cost of production is determined by the production order routing and production order bill for a cumulative order, together with the inventory transactions posted against that cumulative order.

Cumulative orders can be created in the following ways:

- Automatically created by the system when you invoke a repetitive transaction
- Created one at a time when you click New in the **Repetitive Cumulative Orders** view
- Created in batches when you choose Actions > *Bulk* Create Orders in the **Repetitive Cumulative Orders** view

The **Repetitive Cumulative Orders** view allows you to create, modify, and delete repetitive cumulative orders:

- Creation: Click New, set the attributes on the Main panel, and click Save.

  Note

  When creating a repetitive cumulative order, you can set Site, Item, Production Line, Routing, BOM/Formula, and Start Effective Date only, but leave Production Order and ID blank. The system then automatically assigns a production order number and ID during order creation.

- Modification: Select a repetitive cumulative order record, click Edit, and then modify related parameters in the form.

  Note

  Only Start Effective Date and End Effective Date are editable.

- Deletion: Select a repetitive cumulative order record, click Edit, and then click Delete in the form.

  Note

  Before deleting a repetitive cumulative order, make sure that its accounting is closed. That is, the Order Status is C (Closed).

Summary

The Summary panel displays key data about the repetitive cumulative order you are working on, including Production Order, ID, Item, Start Effective Date, and End Effective Date. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel consists of the following fields:

Production Order

Enter a number for the production order, or leave this field blank to accept the system-defaulted production order number.

When adding or creating a new repetitive cumulative order, the new production order number is displayed after you confirm that the site, item, production line, routing, BOM/formula code, and start effective date are correct, and the new order is created.

ID

Enter an ID for the production order, or leave this field blank to accept the system-defaulted production order number.

Repetitive cumulative orders are created by invoking any of the repetitive transactions or by the Create function in the **Repetitive Cumulative Orders** view. When created, the repetitive cumulative order is assigned an ID number.

When adding or creating a new repetitive cumulative order, the new ID number is displayed after you confirm that the site, item, production line, routing, BOM/formula code, and start effective date are correct, and the new order is created.

Site

Enter the site code identifying the facility at which this repetitive cumulative order is being processed.

Item

Specify the item being manufactured on this repetitive cumulative order, either a finished product or an intermediate sub-assembly.

Description 1

This field is read-only and displays the primary item description set in Items.

Description 2

This field is read-only and displays the second description line set in Items for extra or supplementary information on the item.

Production Line

Specify the production line this repetitive cumulative order is to run on.

Routing

Enter a code identifying the routing or process used to produce this item or product. The code can identify an alternate routing or process. When an alternate routing is entered for this repetitive cumulative order, the appropriate product structure or process must also be specified. Otherwise, an error displays.

You can also leave this field blank. When it is left blank, the system accesses the routing stored with a routing code equal to the item number on the repetitive cumulative order.

BOM/Formula

Enter a code identifying the product structure or formula for this repetitive cumulative order. The code can identify an alternate product structure or base process. When an alternate routing is entered for this repetitive cumulative order, the appropriate product structure or process must also be specified. Otherwise, an error displays.

This field can be left blank. When it is blank, the system accesses the product structure or formula related to the item specified for this repetitive cumulative order.

Created Date

Indicate the date this repetitive cumulative order was entered. The default is the system date.

Order Status

Indicate the current status of the repetitive cumulative order. Values are R and C.

- R (Released). All available components are detail allocated and a picklist can be printed. If a key item is not available, the production order cannot be released. You can process material issues, receipts, and labor feedback against released production orders.
- C (Closed). No more material can be issued or received against a closed production order. Labor can still be reported. When the status of a joint production order set is changed to Closed, the current average, current last, and GL average costs are updated. Costs are also updated when the Production Order Accounting Close function is running. When the status of an order is changed to C, all of the open requirements for materials, allocations, and work center operations are removed.

Note

For exploded, allocated, or released joint orders, you can change the quantities for co-product/by-product production orders without having

their quantities automatically rescaled. You can also add or delete co-product/by-product orders from a joint production order set.

Start Effective Date

This field defines the starting date for a new repetitive cumulative order. The value entered for start date is used with the method defined by the End Eff Default Method field to determine the default start and end dates when adding a new repetitive cumulative order.

The start effective date cannot overlap with the effective dates of another cumulative order for the same site, item, production line, routing, and bill of material.

End Effective Date

This field defines the end of the effective interval that the repetitive cumulative order covers. You can leave this field blank. In this case, the end of the effective interval is taken to be in the indefinite future; that is, no effective interval in any other repetitive cumulative order can occur after the Start Effective date of this order.

Notes

The Notes panel allows you to manage note records.

Page

Enter a page number to identify a note record.

When you add a note record, it is identified by a page number. You can enter a number manually or let the system assign the next number by leaving Page blank. This number is automatically incremented by the system when a record is successfully created.

Notes

Enter information you want to associate with this order.

You can create multiple records with different page numbers to add notes for one order.

Note The Notes panel is an optional screen for entering notes, including the Page and Notes fields. You can leave this panel blank, or click New, Edit, and Delete on this panel to maintain notes records when needed.

Note In the detailed Notes view, you can create or maintain note records. In addition, you can click Select next to Insert Master Note to directly copy and modify notes from existing master notes, instead of manually entering note text.

Actions

The **Repetitive Cumulative Orders** view supports the following action: *Bulk* Create Orders.

Choose Actions > *Bulk* Create Orders to create new cumulative production orders in advance in a batch-oriented setting. This prevents the system from creating them during repetitive transactions, and ensures a better response time for items with many components.

To use this function, orders must already exist in the system. The new order is based on the old, with a different effective date.

This function selects cumulative production orders based on the selection criteria entered. For a cumulative production order to be selected, its end effective date must match the end effective date entered in the selection criteria. Also, the cumulative production order must have a WIP balance.

You can then select all or some of the cumulative orders listed on the Main panel and click Simulate to generate new repetitive cumulative orders.

For each cumulative production order selected, the system looks for an existing cumulative production order with an effective date range that includes the day after the entered end effective date. If none exists, a new cumulative production order is created. The start and end effective dates of the new cumulative production order are set based on the value of the End Eff Default Method field.

After you confirm the attributes of the simulated orders are correctly set on the Summary panel, click Submit. Then the system creates these orders.

When a cumulative production order is created:

- The production order number is automatically assigned.
- The production order ID is automatically assigned.
- The production order type is C (Cumulative).
- The production order status is R (Released).

When the system generates the cumulative order ID, it searches for subcontract orders associated with the cumulative order and automatically updates the production order ID and operation on the order. The system also replaces expired cumulative order IDs with the new cumulative order ID on the appropriate purchase orders.

For this automatic update to occur, you must specify a subcontract routing and operation for the subcontract order in Subcontract Routing/ Operation if you use discrete purchase orders for your subcontract orders or in Subcontract Order MRP% if you use scheduled orders for your subcontract orders.

Production Accounting

Production accounting provides functions to determine the cost of production for a fiscal period. These functions calculate and create transactions for cost variances that were not captured by production activity transactions, transactions that create entries to account for the material, labor, and burden, costs for production, together with associated cost material, labor, and burden variances.

Production Order Accounting Close

Execute this program regularly or at least at the end of each fiscal period as defined in your General Ledger (GL) calendar. This program works with all types of production orders.

Note

When selecting records to run this function, the Effective Date must be in an open GL calendar period.

This program creates transactions in Inventory History and Operation History tables that represent the GL transactions created when closing out the WIP value of the production order. You should execute WIP Material Cost Revaluation before closing orders with this program to prevent unaccounted material rate variances.

Note

The system does not close final assembly orders with open sales order lines.

Accounting close makes the following updates to closed orders:

1. It marks production order operations as complete.
2. For standard costing only, accounting close uses the total quantity received against this production order to calculate material and subcontract usage variances. For example, if 80 units are received but material was issued for 100 units, the excess material cost is posted to material usage variance.
3. Floor stock is added to the WIP value of the production order, using the quantity processed plus the quantity scrapped at each operation. This is the cost of any component item with an Issue Policy set to No Issue.
4. For standard costing only, any amount remaining in WIP is posted to the Method Variance account. Usually this results from using non-standard routings and BOMs. It may also reflect in-process losses resulting from labor on materials that were rejected.
5. Current costs are updated to reflect the actual cost of labor, burden, and subcontracts.
6. Optionally, WIP is transferred from semi-processed repetitive CUM orders to the next CUM order for the following period.

Settings

For more information about running reports, see: Reports on page 296

Filter

Effective Date

Enter the general ledger (GL) effective date associated with this transaction. The system validates that the date is within an open fiscal period. The effective date determines when GL transactions created by this transaction affect GL balances. A transaction does not increase the balance in the Inventory account until this effective date. The date of the transaction can differ from the effective date. The transaction date usually indicates when the transaction was actually entered into the system. Effective date is when the transaction affects the general ledger. At period end, these dates often differ.

Site

Enter a range of sites for the Production Order Accounting Close operations.

Production Line

Enter a range of production lines for the Production Order Accounting Close operations.

Include Work Order/Rep/Both

Enter the order type as WO (work order), rep(etitive), or both for the Prod Order Accounting Close operations. The default is both.

CUM Order End Date

Enter the cumulative order end date.

Production Order

Enter a range of production orders with WIP amounts to clear, variances to calculate and post, and operations to close.

ID

Enter a range of IDs. The production order and ID must be unique. Production order number and ID together identify a specific manufacturing order. The same order number can be used with different IDs.

Item

Enter a range of items numbers being manufactured on this production order, either a finished product or an intermediate subassembly.

Project

Enter a range of project code IDs for the Production Order Accounting Close operations. Project codes are one component of an account number defined in GL setup functions.

Sales/Job

Enter a range of sales/job code in a range for the Production Order Accounting Close operations. Note that the project code records the cost of a particular job in the GL.

Transfer Work in Process

Select Yes to have the system transfer work in process automatically.

Print Account Detail

Select Yes to print the GL transaction detail by production order. If No is selected, output of GL transaction detail is not required. Output displays in sequence by production order number, ID, item number, site quantities ordered, completed and rejected, SO/Job, Project, and Effective Date for each order that meets the selection criteria. When checked, the system prints the GL transactions in sequence by GL reference number showing the debit and credit accounts and amount of each WO-CLOSE transaction created for each production order. The default is Yes.

Print GL Summary

Select Yes to print GL data in the report. Select No to omit the GL data. The default is Yes.

Update/Simulation

Select Update to run this program in Update mode and change records in the database. When selected, the system:

- Completes Open Operations: The system marks all operations complete. No more labor can be recorded against this order. Any unreported operations are closed at standard. Adjusts quantities completed at open operations to match the total of completions plus rejects at Work Order Receipt.
- Posts Floor Stock: Costs of components are flagged as Issue Policy No are added to WIP before variances are calculated. Thus floor stock cost is not included in variance.
- Calculates Usage Variances: The system calculates material and subcontract usage variances. Total quantity issued is compared to total quantity required to make quantity reported complete (receipts plus rejects). Any difference is a usage variance.
- Clears Out WIP Balance: The system sets any remaining WIP balance to zero. Any amount left in WIP at this point is reported as a Method Variance that cannot be traced to any specific

source (for example, material or labor, rate or usage). Method variances can result from the use of alternate bills and routings, different lot sizes, in-process loss, or changes in GL costs (without revaluing WIP). Because costs of component issues are tracked by operation, a method variance occurs if you issue components at an operation different than the one recorded in the bill.

Select Simulation to run this program in Simulation mode. The same results are calculated for Update without updating the database. Simulation is displayed on the top of the report. The default is Simulation.

Post Production Order Usage Variance

This function calculates and recognizes the following variances:

- Component Material Usage Variance
- Run Labor Usage Variance
- Run Labor Burden Usage Variance
- Setup Labor Usage Variance
- Setup Labor Burden Usage Variance
- Floorstock Component Expense

Note the following when this function posts variances:

- The GL transaction type for production order variances is WO-VAR.
- This function does not create Subcontract Usage Variances, Mix Variances, or Method Variances; these variances are created by Production Order Accounting Close.

The following sections provide more information on the variance types. Each topic includes a table that depicts the transaction type, the GL transaction type, the debited and credited accounts, and the program or condition that creates the variance. Use the information in the table to help you decipher transaction/costing information that displays in reports.

Component Material Usage Variance

Component Material Usage Variance

Std Transaction	Transaction Type	GL Transaction Type	Debit	Credit
Material Usage Variance	WO-VAR (tr_hist)	MATL-VAR	WIP (wo_acct)	Inventory

When using standard costing, material usage variances are calculated based on the standards in the production order bill. Some production orders start out with a different production order bill. Rework orders have

only one billed item, the item being reworked. Expense orders have no bill. To calculate variances, you must enter a standard bill. The system calculates material usage variance from the difference between the total quantity issued for a component and the expected quantity on the production order bill and the general ledger cost for the item.

The system determines Earned Quantity, which is the expected component quantities from the production order bill to make the quantity reported complete. Earned quantity is compared to actual issues (at item standard cost). Any difference is posted as a variance. The calculation is as follows:

*(Actual Qty Issued – [qty per (wod_bom_qty) * (qty completed + qty scrapped)]) * Frozen Std Unit Cost (wod_bom_amt)*

Run Labor Usage Variance

Run Labor Usage Variance

Std Transaction	Transaction Type	GL Transaction Type	Debit	Credit
Labor Run Usage Variance	WO-VAR (op_hist)	LBR-2002	Labor Usage Variance	WIP (wo_acct)

The system determines labor usage variances for the reported setup and run hours by the difference between the total actual setup and run labor hours and the expected setup and run labor hours for the production operation. The system uses the expected labor rates for the work center on the production order routing operation.

The labor run usage variance is as follows per operation:

*lbr_usage var= [Actual Run Hrs - Std Run) * Std Run Rate*

Run Labor Burden Usage Variance

Run Labor Burden Usage Variance

Std Transaction	Transaction Type	GL Transaction Type	Debit	Credit
Burden Run Usage Variance	WO-VAR (op_hist)	BDN-2002	Burden Usage Variance	WIP (wo_acct)

The system determines labor usage variances for the reported setup and run hours by the difference between the total actual setup and run labor hours and the expected setup and run labor hours for the production operation. The system uses the expected labor rates for the work center on the production order routing operation.

The run labor burden usage variance is as follows per operation:

*run time * ((run rate * (bdn pct/100)) + bdn rate + mch bd rate)*

Setup Labor Usage Variance

Setup Labor Usage Variance

Std Transaction	Transaction Type	GL Transaction Type	Debit	Credit
Labor Setup Usage Variance	WO-VAR (op_hist)	LBR-1002	Labor Usage Variance	WIP (wo_acct)

The system determines labor usage variances for the reported setup and run hours by the difference between the total actual setup and run labor hours and the expected setup and run labor hours for the production operation. The system uses the expected labor rates for the work center on the production order routing operation.

The setup labor usage variance is as follows per operation:

*lbr_usage_var = (Actual Setup Hrs - Std Setup) * Std Setup Rate*

Setup Labor Burden Usage Variance

Setup Labor Burden Usage Variance

Std Transaction	Transaction Type	GL Transaction Type	Debit	Credit
Burden Setup Usage Variance	WO-VAR (op_hist)	BDN-1002	Burden Usage Variance	WIP (wo_acct)

The system determines labor usage variances for the reported setup and run hours by the difference between the total actual setup and run labor hours and the expected setup and run labor hours for the production operation. The system uses the expected labor rates for the work center on the production order routing operation.

The setup labor burden usage variance is as follows per operation:

*setup labor burden usage variance =(Actual Setup Hours - Operation Standard Setup Hours) * [(Frozen Work Center Run Rate * Frozen Work Center Labor Burden %) + Frozen Work Center Labor Burden Rate + Frozen Machines Burden Rate]*

Floorstock Component Expense

Floorstock Component Expense

Std Transaction	Transaction Type	GL Transaction Type	Debit	Credit
Floor Stock	WO-VAR (tr_hist)	FLR-STK	WIP (wo_acct)	Floor Stock (wo_flr_acct)

Floorstock is inexpensive, easily replenished components such as screws, usually stocked on a factory floor and used as needed, without requisition. Floor stock is added to the WIP value of the production order, using the quantity processed at each operation.

The calculation is as follows:

*[qty per (wod_bom_qty) * (qty completed + qty scrapped)] * Frozen Std Unit Cost (wod_bom_amt)*

Settings

For more information about running reports, see: Reports on page 296

Filters

Effective Date

Enter the transaction effective date. The default is the current date, but you can modify it as needed. The system verifies that the effective date is within an open fiscal period. The effective date determines when the general ledger (GL) Inventory account balance is updated.

Production Order

Enter a range of production orders with variances to calculate and post.

ID

Enter a range of IDs. The production order and ID must be unique. Production order number and ID together identify a specific manufacturing order. The same order number can be used with different IDs.

Item

Enter a range of items for this function to consider.

Site

Enter a range of sites for this function to consider.

Production Line

Enter a range of production lines.

Include Work Order/Rep/Both

Select the order type as WO (Work Order), Rep(etitive), or Both. The default is Both.

Show Variances with 0 to Post

Select Yes if you have an order that has variances that were previously posted, and you want to view the total variances posted so far. This has no financial or database effect; it only affects what displays on the report. Select No to display new variances to post. The default is No.

Print GL Summary

Select Yes to include GL data in the report. Select No to omit the GL data. The default is No.

Update

Select Yes to run this program in Update mode and change records in the database. Select No to run this program in Simulation mode. The same results are calculated for Update without updating the database. Simulation is displayed on the top of the report. The default is No.

Production Order Variance Rules

Rules for Calculating Usage, Rate, and Method Variances

The system calculates usage and rate variances using the components and operations on the production order BOM and routing. The system does not calculate the variances in the way that it calculates standard cost; that is, when the production order uses an alternate routing or BOM, the system calculates the variances, comparing them to the expected component and operation values from the production order's BOM and routing.

The comparison includes one-off components and operations that you create for the production order.

To ensure accuracy, the system does not compare variances to the component and operation costs on the BOM and routing for the standard cost roll-up. When the production order BOM and routing result in a cost that is different from the standard cost, the system records the difference as a Method Variance (MTHD-CHG).

The system does not post variances for overhead. The system posts the overhead value to the Overhead Account (OVH-POST) as:

*Overhead Cost * Received Quantity*

When calculating quantities at each operation, the system includes the cumulative yield at the operation to obtain the operation's correct expected quantity.

Labor Usage and Rate Variances (includes Burden)

The system calculates usage variance by comparing the value of the actual hours reported to the cost of the total standard hours. The variance is calculated as:

*(Actual labor hours reported - Standard hours * Actual quantity processed) * Work Order Routing Work Center rate*

The system calculates rate variance by comparing the work center's current setup and run rates for the production order routing operation to the setup and run rates of the work center that reports labor. The rate variance is calculated as:

*Actual labor hours reported * (Actual Labor rate - work order routing work center rate)*

Any remaining WIP value from the operation becomes Method Variance when an alternate work center or an employee rate is used.

Usage variances are calculated and posted from Post Production Order Usage Variances, Production Order Accounting Close, or Operation Close.

Material Rate and Usage Variances

The system calculates usage variance by comparing the actual quantity reported to the quantity per multiplied by the quantity processed at operation. The system calculates rate variance by comparing the current component cost of the component on the production order BOM to the current component cost of the component used when reporting issue/backflush. Any remaining WIP value from the component becomes Method Variance.

When substitute components are in use, a usage variance is calculated for the quantity not used of the original component:

*(Quantity substituted * original component cost)*

In addition, a corresponding usage variance is calculated for the substitute component:

*(Quantity substituted * substitute component cost)*

The system calculates rate variances at all component issues when the current component cost is different from the cost when the production order is in the E, A or R status.

The component cost is locked in when the production order is exploded; and once locked in, the system compares the current component cost to this locked-in cost to get the rate variance.

The system posts usage variances during Accounting Close, but optionally, you can post usage variances at any time before close using Post Production Order Usage Variance.

Subcontract Usage and Rate Variances

The system calculates usage variances for a subcontract operation by comparing the quantity processed on the operation with the total quantity received of the finished good. The system only calculates subcontract usage variances during accounting close.

The system calculates rate variances by comparing the production order’s subcontract cost on the operation to the PO price. The system only calculates rate variances during PO Receipt.

For accounts payable (AP), the system posts rate and usage variances directly to the variance accounts and never posts to the WIP value of the order.

Any remaining WIP value from the operation becomes Method variance.

Method Variance

Method Variance is posted at the time of accounting close, after all other variances have been calculated and posted to GL; that is, the Method Variance is what is left of WIP on the order after all other variances have been calculated and eliminated from WIP.

Production Operations Reporting

Production Operations Reporting also allows you to report production transactions for a production order, and supports multiple actions such as Report Operation Activity, Report Labor, and Report Rejects & Scrap.

When the system identifies any co-product or by-product orders, it automatically shows the base process order in the joint order set for the Main panel of each action. The system updates the routing for the base process order, and components are also issued in the base process. The co/by-production transactions affect the following report activities:

- Report Operation Activity
- Report Labor
- Report Rejects & Scrap
- Report Rework
- Report Operation Move
- Report WIP Adjustments

When electronic signatures functionality is enabled, the system requires you to enter electronic signature details when creating operation history (op_hist) records for setup, labor, down, downtime or move transactions. If electronic signatures functionality is not enabled, the system creates op_hist records without prompting you to enter electronic signature details.

Note To enable electronic signatures, navigate to the **E-Signature Setup** view, find the OperationTransHist record, and set Active to Yes for it on the details page. Then click Details in the E-Signature Business Components panel to launch the **E-Signature Business Components** view and define the types of transactions for which you want to make the system trigger electronic signatures in the Conditions panel, such as Setup, Labor, Down, DownTime, and Move. You can then see the created electronic signature records in the **E-Signature History** view after making any of the predefined transactions.

The report actions affected by electronic signatures include:

- Report Operation Activity
- Report Labor
- Report Operation Move
- Report Nonproductive Labor
- Report Rework

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and

automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Report Operation Activity Action

The Report Operation Activity action supports multiple functions related to production activity transactions. Such functions help create transaction records for the reported setup time, labor hours, material scrapped, and the number of units completed for specific order operations. These records are used to track the status of production order operations, monitor performance of work centers, and update the general ledger (GL) for manufacturing costs.

With the Report Operation Activity action in **Production Operations Reporting**, you can:

- Issue (backflush) components to the operation at which you are reporting (that is, the reporting operation) and to any preceding non-milestone operations in the item's routing, up to the previous reporting operation.

  Note When Serialization is enabled, you can select Issue by Pack to issue inventory for serialized items and packs.

- Backflush labor and burden to the reporting operation and any preceding non-milestone operations in the routing, up to the previous reporting operation.

  Report labor hours and setup hours for the reporting operation. Labor and burden are automatically backflushed only when Auto Labor is selected in the routing record for the preceding non-milestone operation.

- Move the quantity completed, which is the quantity processed minus the scrap and reject quantities, to the input queue of the subsequent operation, provided that Move Next Op is selected.

- View the consumed production orders in a grid.

- Close orders or operations.

- Receive finished products and co/by-products into inventory when you report production at the final operation in the routing and Move Next Op is selected. Meanwhile, the system also updates the quantity completed and reduces the quantity open on the applicable scheduled production orders or split production orders.

  Note When Serialization is enabled, you can select Receive by Pack to receive finished products into inventory as packaged goods. Transactions for co/by-products do not support serialization.

After selecting a production operation record in the **Production Operations Reporting** browse, you can choose Actions > *(Individual)* Report Operation Activity to open the **Report Operation Activity** window.

There are three panels in the **Report Operation Activity** window: Summary, Main, and Operation Activity. The Operation Activity panel consists of the following subpanels:

- Process & Complete
- Rejects
- Scrap
- Order Consumption
- Setup Labor
- Run Labor
- Issue Components
- Receive or Receive Co/By-Products

Note The Issue Components subpanel becomes unavailable when Auto Backflush is selected in the Process & Complete subpanel. The Receive subpanel is available only when the reporting operation is the last operation and the Move Next Operation field is selected.

For fields in the **Report Operation Activity** window, the system first defaults values from the production operation you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, as well as other data necessary to locate a new production order.

Note When you manually set the fields, you must click Apply to make the search criteria take effect and let the system locate the order desired.

The **Report Operation Activity** window also provides the drill-down link feature. By clicking the link icon on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation you are working on, including Total Processed, Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing. The system displays the Total Received Quantity field as well, when the reporting operation is the last operation and the Move Next Operation field is selected. These fields are read-only and stay in view even when you scroll down the page.

Note The Total Processed field displays the sum of quantities you processed against the current operation. The Total Received Quantity value represents the quantity to be received into inventory. Both of these are displayed in inventory unit of measure (UM).

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation transaction.

Production Line

Enter a code identifying the production line associated with this operation transaction.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field, along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure

When a new production order is located and applied, the system updates the field values in this window according to the new order.

Operation Activity

The Operation Activity panel consists of the following subpanels, enabling you to perform different production activities:

- Process & Complete: to report quantities processed or completed
- Rejects: to process quantities to the output queue of the reporting operation and then reject from that queue
- Scrap: to process quantities to the output queue of the reporting operation and then scrap from that queue
- Order Consumption: to calculate orders to be consumed for the processed quantity and to close the operation or order
- Setup Labor: to record the actual setup time
- Run Labor: to record the actual run time
- Issue Components: to issue components
- Receive: to receive finished goods

Employee

Enter a valid employee for this operation transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Operation

Enter a valid operation code. The system defaults the current operation. You can manually change it.

Close Operation

Select to close the operation.

Note The system defaults the setting of Close Operation here to the Order Consumption grid after you click Calculate Consumption.

Close Order

Select to close the order. If the current operation is not the last one in the routing, the Close Order field is cleared by default and is not editable.

Note The system defaults the setting of Close Order here to the Order Consumption grid after you click Calculate Consumption.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Department

Enter a code identifying the department associated with this operation transaction.

Unit of Measure

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Conversion

Enter the UM conversion.

Process & Complete

The Process and Complete subpanel consists of the following fields:

Quantity Processed

Specify the quantity processed at this operation. The default is 0 (zero).

When Transaction Quantity Method is set to Qty Processed, the system allows you to enter Qty Processed rather than Qty Complete in the Report Operation Activity action as well as Receive Order.

Note The Transaction Quantity Method value in **Work Centers** has a higher priority over the value set in **Production Lines**. If there is no production line defined on a production order and no Transaction

Quantity Method defined on the work center, the system uses the Quantity Open Method set in **Production Control** as the transaction quantity method.

Quantity Complete

Specify the quantity completed at this operation. The quantity is transferred from the input queue of the operation to its output queue. The default is 0 (zero).

When Transaction Quantity Method is set to Qty Completed, the system allows you to enter Qty Complete rather than Qty Processed in the Report Operation Activity action as well as Receive Order.

Note The Transaction Quantity Method value in **Work Centers** has a higher priority over the value set in **Production Lines**. If there is no production line defined on a production order and no Transaction Quantity Method defined on the work center, the system uses the Quantity Open Method set in **Production Control** as the transaction quantity method.

If there are prior non-milestone operations, they are backflushed using a demand-pull algorithm. Essentially, this means that the amount to be backflushed at a non-milestone operation depends on the following operation's input queue being negative (caused by reporting Qty Processed in the backflush transaction), and how much is available in the non-milestone operation's output queue to satisfy it. This is performed successively for all preceding non-milestone operations, up to the first milestone operation.

When a milestone operation is reported, the system reports prior non-milestone operations automatically; however, the system checks whether the Auto Labor field is set to non-milestone operations to determine whether labor of non-milestone operations is reported automatically.

Total Quantity Processed

This field is view-only. It depicts the sum of quantities you have processed against the current operation.

Note Total Quantity Processed is displayed in inventory unit of measure (UM) while the other quantities are in transaction UM—the one specified in the Unit of Measure field.

Move Next Operation

Select this field to let the system move the quantity reported complete.

The Move Next Operation field defaults from the routing defined on the discrete or CUM order, which is initially defaulted from the standard routing specified for the item. This value determines where the Quantity Complete is transferred to:

- Selected: The Quantity Complete is transferred from the input queue of the reporting operation to the input queue of the next

operation. When the reporting operation is the final operation in the routing, the Quantity Complete is transferred to the appropriate finished goods inventory location.

- Cleared: The Quantity Complete remains in the output queue of the reporting operation. When the reporting operation is the final operation in the routing, no receipts are recorded into inventory. You can perform the Move Transaction operation to move it manually to the next operation's input queue.

Note The Receive subpanel is available only when the current operation is the last one in the routing and the Move Next Operation field is selected.

Auto Backflush

Select this field to make the system automatically handle component issue.

- When selected, the Issue Components subpanel is unavailable, and the system automatically calculates the issue list after you click Submit.

  Note When Auto Backflush is selected and you click Submit, if there is any invalid inventory on the issue list, the system displays an error message, prompting you to manually check the inventory by clicking Calculate Issue List in the Issue Components subpanel.

- When cleared, the system displays the Issue Components subpanel, allowing you to manually calculate the issue list by clicking Calculate Issue List there. You can then click Details to launch the **Issue Components** details page for .

The default value of Auto Backflush is cleared. If you click Report Another after a successful reporting transaction, the system defaults the Auto Backflush setting from the previous transaction.

Rejects

The Rejects subpanel allows you to report a reject quantity. The system first processes the quantity to the output queue of the current operation and then rejects it from the output queue.

You can click New to add new reject records, or click Delete to remove existing records. You can also double-click an existing record to modify its fields, including Quantity, Reason, and Reject to Operation.

Note In the **Report Operation Activity** window, the Rejects grid only supports for reject from the current operation's output queue. To report reject quantities from the input queue, take the Report Rejects & Scrap action instead. For details, refer to Report Rejects & Scrap Action on page 3647.

Quantity

Enter the number of units to process to the output queue of the current operation and then reject from the output queue.

The default is 0.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the rejected quantity. You can also define a new one in **Reason Codes**.

Reason codes identify and categorize activities by reason; for example, sales lost because of price, downtime and rejects caused by machine failure, or user account deactivated because user left company.

For quantities rejected, you can create multiple records with different reasons.

Reason Description

This field is read-only, and displays the short description of the reason code.

Reject to Operation

Enter an operation code to move the reject quantity to this reject queue of this operation.

You must reference either the current operation or an operation that precedes it. The default is the current operation.

The Reject to Operation values can be different for each line in the Rejects Grid.

Reject to Operation Description

This field is read-only, and displays the short description of the operation you entered in Reject to Operation.

Scrap

The Scrap grid allows you to report a scrap quantity. The system first processes the quantity to the output queue of the current operation and then scraps it from the output queue.

Scrap transactions debit Scrap Account and credit WIP Account. Scrap transactions are not appropriate for components that are lost or unusable as a result of the manufacturing process.

You can record multiple scrap quantities for the output queue. Specify reason codes for the scrapped quantities.

Note In the **Report Operation Activity** window, the Scrap grid only supports for scrap from the current operation's output queue. To report scrap quantities from the reject or input queue, take the Report Rejects &

Scrap action instead. For details, refer to Report Rejects & Scrap Action on page 3647.

Quantity

Enter the number of units to process to the output queue of the current operation and then scrap from the output queue. The default is 0.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the scrapped quantity. You can also define a new one in **Reason Codes**.

Reason codes identify and categorize activities by reason; for example, sales lost because of price, downtime and rejects caused by machine failure, or user account deactivated because user left company.

For quantities scrapped, you can create multiple records with different reasons.

Reason Description

This field is read-only, and displays the short description of the reason code.

Order Consumption

The Order Consumption grid lists the schedule against which the activity is consumed.

After you click Calculate Consumption, if the current processed quantity consumes any orders, the system displays information about the consumed orders in this grid.

If you change from the current operation to another one, or modify the Quantity Processed or Move Next Operation field in the Process & Complete subpanel when the current operation is the last operation, the system automatically removes all existing records from the Order Consumption grid. That is because any changes to the preceding fields may make the current data in this grid out-of-date. Therefore, you must click Calculate Consumption again to make the grid display new consumption records.

The fields displayed in this grid vary according to the Processed Quantity value:

- **When the processed quantity is equal to or larger than 0 (zero), this grid displays the following fields:**
  - Production Order
  - ID
  - Due Date
  - Order Status

- Open Quantity

  Note Open Quantity of an operation is calculated as follows regardless of whether this operation is the final one on the routing: *Qty to Start – Qty Completed- Qty Scrapped – Qty Rejected*.

- Processed Quantity
- Complete Quantity

  Note The Complete Quantity field displays only when the processed operation is the last operation, Move Next Operation is selected, and the calculated quantity completed is larger than 0 (zero).

- Scrap Quantity
- Close Operation
- Close Order

If there is a quantity received from production into inventory at the operation—for example, when the reporting operation is the final one on the routing, Move Next Operation is selected, and the calculated quantity completed is larger than 0 (zero)—then:

- Complete Quantity is available, and displays the quantity completed on the order.
- Scrap Quantity is the quantity scrapped on the order.
- Processed Quantity is the quantity processed on the order.

If there is no quantity received from production into inventory at the operation—for example, when the reporting operation is not the final one on the routing, or it is the final operation but Move Next Operation is not selected—then:

- Complete Quantity is unavailable.
- Scrap Quantity is the quantity scrapped at the operation.
- Processed Quantity is the quantity processed at the operation.

- **When the processed quantity is smaller than 0 (zero), this grid displays the following fields:**
  - Production Order
  - ID
  - Due Date
  - Order Status
  - Quantity Accepted
  - Quantity Scrapped
  - Close Operation

- Close Order

  In this case, if there is a quantity received from production into inventory at the operation, both Quantity Accepted and Quantity Scrapped are the quantities returned from the order.
  If there is no quantity received from production into inventory at the operation, both Quantity Accepted and Quantity Scrapped are the quantities returned from the operation.

For consumed orders, the Order Consumption grid defaults the Close Operation and Close Order values from the heading frame of the Operation Activity panel. You can manually change the Close Operation and Close Order values here. Make sure that orders are not needed anymore before you select the Close Operation or Close Order field.

You can close the operation or order even when the processed quantity is 0 (zero). For a discrete or scheduled order, you can enter the specific order information in the Order Selection subpanel and click Calculate Consumption. If there is no processed quantity, the system displays the specified order in the grid; otherwise, the system follows the current consumption logic in use.

If you enter information about a discrete order in the Order Selection subpanel, the system always locates the order after you click Calculate Consumption, irrespective of whether it has a processed quantity in this transaction.

When Close Operation is selected, the status of the milestone operation and its affiliated non-milestone operations are changed to Closed. The system automatically removes component requirements, allocations, and shortage allocations linked to this operation, as it expects that you will not record any additional activity (material issue or labor transaction) against the operation of the order or lower-level non-milestone operations. If there is any picked allocation for components, the system converts the picked allocation into a picklist master record.

After closing an operation, the system creates GL transactions like Labor Setup, Labor Run, Burden Setup, and Burden Run Usage Variance if there is any different labor or setup time reported other than the standard one. Note that closing a scheduled order does not lead to creation of GL transactions.

When Close Order is selected, the status of the order is changed to Closed, with all operations associated with the order closed. The system automatically removes component requirements, allocations, and shortage allocations, as it expects that you will not record any additional activity (material issue or labor transaction) against the order or operations.

When closing an order, the system performs the following steps:

1. Remove component requirements.
2. Remove scheduled receipts of the order.

3. Convert the picked allocation for components into the picklist master record if any.
4. Remove component allocations and shortage allocations.
5. Remove all allocations that are not picked yet when the order is on an order picklist. When there is no allocation on the picklist anymore, the system removes the picklist.
6. Remove all allocations that are not picked yet when the order is on a bulk picklist and it is the last one on the picklist as well. When there is no allocation on the picklist anymore, the system removes the picklist.

Note The system defaults the setting of Close Order from the heading frame of the Operation Activity panel to the Order Consumption grid after you click Calculate Consumption. For a discrete order, since the system can process this order only, it uses the default value regardless of whether you click Calculate Consumption; however, since multiple scheduled orders can be processed by the system, you have to verify the value before submission. If you do not click Calculate Consumption, the system treats these orders as not closed regardless of the default value.

Calculation of the component issue list relies on the data of consumed orders. Therefore, when the Order Consumption grid is left blank, if you click Calculate Component Issue List in the Issue Components subpanel, the system automatically triggers the Order Consumption calculation.

Setup Labor

The Setup Labor and Run Labor subpanels enable you to report labor hours for setup and run time for production.

Note You can also take the Report Labor action in **Production Operations Reporting** to report labor hours for setup, run, and down time for production. For details, refer to Report Labor Action on page 3636.

Use Standard Setup

Select this field to use the standard setup time that it takes to set up operations for the order, independent of order quantity.

When selected, the system automatically displays the standard setup time, which is specified for this operation in **Production Order Routings**, in the Actual Setup Time field. To override the system pre-populated value, you can also manually change the Actual Setup Time value.

Start Setup

Enter the time of day when the setup of this operation was started.

Operations start after setup completes.

Setup time can be entered as a start setup time and a stop setup time. For example, if you began the setup work at eight and finished at nine-thirty in the morning, you could enter a start setup time of 08:00 and a

stop setup time of 09:30. If you enter the start and stop setup time, the system calculates the Actual Setup Time value.

Note The system provides multiple views for reporting labor data. The default view displays all fields listed here. The system also allows you to enter labor time as an elapsed time or as a start and stop time. In the view of the Elapsed Time mode, the Start Setup, Stop Setup, Start Run, and Stop Run fields are unavailable in the Setup Labor and Run Labor subpanels; in the view of the Start & Stop Time mode, the Actual Setup Time and Actual Run Time fields are unavailable.

Stop Setup

Enter the time of day when the setup of this operation was completed, or if Start Setup time is 0 (zero), enter the total amount of time spent setting up this operation.

Setup time can be entered as a start setup time and a stop setup time. For example, if you began the setup work at eight and finished at nine-thirty in the morning, you could enter a start setup time of 08:00 and a stop setup time of 09:30. If you enter the start and stop setup time, the system calculates the Actual Setup Time value.

Actual Setup Time

Enter the actual time in decimal hours to prepare the work center to carry out the operation, independent of order quantity.

If you set both Start Setup and Stop Setup, the system automatically calculates the Actual Setup Time in unit of Hour. For example, when you enter a start setup time of 08:00 and a stop setup time of 09:30, the system displays 1.5 Hours in Actual Setup Time.

Note When Use Standard Setup is selected, the system automatically displays the standard setup time, which is specified for this operation in **Production Order Routings**, in the Actual Setup Time field. You can manually change the Actual Setup Time value to override the system pre-populated value.

Setup Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, a valid earning code must be entered. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Run Labor

The Auto Labor field on the production order routing determines if standard labor is calculated automatically by this transaction. If the Auto Labor field is selected, the system automatically calculates and shows the standard number of run hours for the quantity processed in Actual Run

Time of this subpanel. You can manually change the system-calculated Actual Run Time value when necessary, to record the actual run time for the operation.

The system also automatically reports standard hours for each prior non-milestone operation that also has Auto Labor selected. When Auto Labor is not selected, the system does not calculate standard run hours, and you should report labor explicitly.

Start Run

Enter the time of day when work on this operation was started. An operation must be started after any setup has been completed.

Labor time can be entered as a start run time and a stop run time. For example, if you began work at ten in the morning and finished at eight in the evening, you could enter a start run time of 10:00 and a stop run time of 20:00. If you enter the start and stop run time, the system calculates the Actual Run Time value.

Stop Run

Enter the time of day when work on this operation was completed, or if Start Run Time is zero, the total amount of time spent working on this operation. This time does not include setup time. When reporting non-productive labor, you are reporting the time spent not working.

Labor time can be entered as a start run time and a stop run time. For example, if you began work at ten in the morning and finished at eight in the evening, you could enter a start run time of 10:00 and a stop run time of 20:00. If you enter the start and stop run time, the system calculates the Actual Run Time value.

Actual Run Time

Enter the actual labor hours, in decimal format, that were spent at this operation for the quantity processed.

The Auto Labor field on the production order routing determines if standard labor is calculated automatically by this transaction. If the Auto Labor field is selected, the system automatically calculates and shows the standard number of run hours for the quantity processed on Actual Run Time, which is:

*Quantity Processed (*that is, *Quantity Completed* + *Quantity Rejected* + *Quantity Scrapped) x Operation Run Time*

You can manually change the system-calculated Actual Run Time value when the run time is different from the standard. The value you enter is considered as the actual run time for the operation.

Recalculate

After manually changing the actual run time, if you want to use the standard run time, you can click Recalculate to make the system

calculate the standard number of run hours for the quantity processed and display the calculated value in Actual Run Time.

The Recalculate button is disabled when Auto Labor is selected on the production order routing, and the Actual Run Time value displayed equals the standard number of run hours for the quantity processed. If you overwrite the system-calculated value, the Recalculate button is enabled, allowing for recalculation. The recalculated value is still equal to the standard number of run hours for the quantity processed.

Run Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, a valid earning code must be entered. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Issue Components

The Issue Components subpanel is available only when Auto Backflush is not selected on the Process & Complete subpanel. You can issue components using this subpanel.

Note When Auto Backflush is selected, the Issue Components subpanel is hidden. In this way, the system issues components according to the system-calculated issue list, and you cannot modify this list. When Serialization is enabled and you select Auto Backflush, the system issues loose non-serialized components automatically, but prompts you to manually scan serial IDs if there are serialized components.

The heading frame of this subpanel consists of the following fields:

Issue Method

Two issue methods are available:

- Backflush (default)

  When you set Issue Method to Backflush, the system follows the current backflush calculation method in use. The system only issues inventory from the backflush locations.

- Allocated

  When you set Issue Method to Allocated, the system considers only the allocated quantity regardless of its locations, and issues only the allocated inventory according to the picking logic. The sequence of picking allocated inventory considers both the consignment setting and the picking logic.

Note This field is disabled and defaults to Backflush when Issue by Pack is selected.

Issue by Pack

This field displays only when Serialization is enabled.

Note To activate Serialization functions, select Enable Serialization in the Serialization panel of **Inventory Control**. You can also define control settings for Serialization in this panel.

Select this field if you want to perform component issue with Serialization in this transaction. The system then displays Serialization-related fields in the grid below for you to issue inventory from unit packs or assembly packs, or to issue lower-level packs from master packs. For more details, refer to the section **Component Issue with Serialization**.

Clear this field if you want the system to perform component issue without Serialization. You can click Calculate Issue List above the grid. The system automatically calculates and displays a list of components to issue in the grid below. You can issue components according to the list, or modify the list and issue inventory as you want. For more details, refer to the section **Component Issue without Serialization**.

Component Issue with Serialization

When Serialization is enabled, the system displays the Issue by Pack field in the heading frame of the Issue Components subpanel. You can select Issue by Pack and then enter data associated with the Serialization solution to issue components by pack. This helps you track and trace the issue of serialized items and packs that are associated with a production order.

The Issue Components grid displays the following fields:

- Issue

  Select the Issue checkbox for the pack to be issued. You can issue inventory from a unit or assembly pack, or issue a lower-level pack from a master pack.
  When you enter the serial of an assembly pack, which contains lower-level packs, in the Serial field, the assembly pack information is displayed in the parent row and the lower-level packs are displayed in the child rows. You can select the Issue checkbox in the parent row to issue the whole assembly pack. You can also manually select or clear the Issue checkboxes in the child rows to issue some of these lower-level packs.
  When you enter the serial of a unit pack, which contains non-serialized items, in the Serial field, the system displays the pack information in a row. You can edit the Quantity Issue field to issue all or part of the inventory in the pack.
  When you enter the serial of a unit pack, which contains serialized items, in the Serial field, the pack information is displayed in the parent row and the serialized item information is displayed in the child rows. You can select the Issue checkbox in the parent row to issue the

whole pack. If you want to issue a partial quantity of the pack, you can manually select or clear the check boxes for the serialized items in the child rows.

Note In the parent row, you must click the arrow ahead of Issue to expand the serial hierarchy and view the lower levels.

- Serial

  Enter the serial of the pack to be issued. You can enter an existing serial. You can also leave this field blank and enter a non-serialized item component in the Item field to issue its loose inventory.
  After you enter the serial of a pack and tab out of the Serial field, the system automatically displays a row in this grid, providing information about this pack.
  You can enter unit packs, assembly packs, and loose serialized items in Active stage; or lower-level child packs or serialized items that are aggregated on an active master pack.
  The pack or item serial ID that you enter can be Active or Aggregated on an active master pack. If the entered serial ID is aggregated on an active master pack, the system notifies you that it will be removed from the master pack. When issuing inventory from a pack that is Aggregated, the system first removes the pack from the master pack.

- Pack Code

  The pack code for the serial you entered.

- Pack Code Description

  The description of the pack code.

- Stage

  The serial stage for the entered serial.
  Serial stages are codes used to track the current situation of a serial number before, during, and after inventory processing. These codes include system- and user-defined codes for active serial numbers related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

- Operation

  The operation where the components are in use. The Operation field is left blank by default.
  After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation above the grid. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid. When you submit the transaction, the system issues the serial IDs against the specified operation and its preceding non-milestone operations.
  If the component is defined on multiple operations in the production order bill, the system issues to the operations in ascending order. If

all the requirements are satisfied, the over-issued quantity is added to the last operation that includes this component.
When a pack holds components that are not defined in the production order bill, the system checks the Modify Component Issue setting in the Compliance panel of **Inventory Control**, to see whether it is allowed to issue any component to a production order. When allowed, the system treats the transaction as an unplanned issue. That means, the system issues the components to the production order on the specified operation, but does not decrease component requirements.

- Item

  The item in the pack that is to be issued.

- Site

  The site where the pack is stored.

- Location

  The location where the pack is stored.

- Lot/Serial

  The lot/serial number of the items held in the pack.

- Reference

  Reference for the items.

- Quantity In Pack

  The quantity that is currently in the pack.

- Quantity Issue

  Enter the quantity to be issued. This field defaults to the Quantity in Pack value.
  When the serial ID is of a unit pack that only contains non-serialized items of a single combination of item, lot, and reference, the Quantity Issue field is editable. You can issue all or part of the inventory in the pack.

- UM

  The item's unit of measure.

- External Serial

  The external serial provided by the supplier for the serial selected. External Serial and Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

To issue components by pack, identify a production order in the Main panel, set required fields as needed, and select the Issue By Pack field in the Issue Components subpanel. Then you can set the Serialization data in the Issue Components grid.

After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid.

Note If the Order Consumption grid is blank, when you start to scan serial IDs, the system automatically triggers and executes the Calculate Consumption logic first.

With this function, you can:

- Issue assembly packs, either full packs or some of its lower-level packs.
- Issue unit packs, either full packs or part of its inventory.
- Issue serialized items, which are not in packs.
- Issue non-serialized items, which are not in packs.

Once you confirm that packs are correct, the system issues the components as follows:

- For all packs, when the system issues all content, it changes the stage to Decommissioned.
- For all serialized items, it changes the stage to Consumed, but maintains the item, lot/serial, reference, and production order information.

For details about how to use this function to issue components by pack, refer to Using the Issue by Pack Function on page 3749.

Component Issue without Serialization

Do not select the Issue by Pack field when you want to perform component issue without Serialization.

After you set Issue Method and click Calculate Issue List, the system automatically calculates and displays a list of components to issue in the grid below. You can then directly issue components according to the list calculated by the system. You can also modify the calculated issue list and issue the inventory as you want.

When the Order Consumption subpanel is updated, the issue list in the Issue Components grid automatically refreshes. If there is any new scheduled order existing in the updated Order Consumption subpanel, the issue list with Quantity Required is updated according to the new scheduled order.

When the Order Consumption subpanel is cleared out, the system removes all records from the Issue Components grid and disables all buttons in this grid except for Calculate Issue List.

You cannot delete any component whose Issue Policy is Backflush from the default issue list; however, for those with non-Backflush Issue Policy, you can remove them from the list. You can also manually add more

components to the list. If you want to issue components, which are not in the production order bill, select Modify Component Issue in **Inventory Control**.

The Issue Components grid displays the following fields:

- Status

  Inventory status icons, which are displayed in the Status column, can be any of the following:

  - A green circle with a check mark inside (): displays when the Quantity Issue value matches the Quantity Required value.
  - A yellow triangle with an exclamation mark inside (): displays when the Quantity Issue value does not match the Quantity Required value.

    Note When the component is associated with attributes and there is any non-conforming attribute, this icon displays even though the Quantity Issue value matches the Quantity Required value. A tooltip stating "Inventory attributes values not conforming with order" also pops up when you hover the mouse point over the icon. In this case, you can select the component record and click Details to launch the **Issue Components** details page for maintaining the item attribute status.
  - An empty gray circle (): displays when the Quantity Issue value is 0 (zero). This is the initial status before calculation.
  - A red circle with a cross inside (): displays when the calculated inventory cannot be issued.
- Component

  Specify the component to issue to the production order.
- Description 1

  This field is read-only and displays the primary description of the specified component.
- Description 2

  This field is read-only and displays the extra description of the specified component.
- Operation

  Specify an operation on the production order routing. The system defaults the current operation. You can manually change it.
- Quantity Required

  Displays the quantity of the component item required.
- Quantity Issue

Displays the quantity of the component item to issue to the production order.

- UM

  Displays the unit of measure (UM) for stocking and planning this item. The default is the inventory UM.

- Issue Policy

  Displays the issue policy of the component, which could be Backflush, Direct, or No Issue.

  - Backflush: Component inventory for the item is consumed by production by using the Report Operation Activity or Receive Order action.
  - Direct: Issue Direct to Order. Component items are issued directly to the production order (as opposed to backflushed).
  - No Issue: Component items are floorstock and are not consumed by production and not processed by inventory transactions.

- Phantom

  Indicates whether this component is a phantom item. The Phantom checkbox is selected when the component is a phantom item.

The Component and Operation fields are editable only when you are adding new components to the grid. All the other fields are read-only.

Above the grid, you can set the Issue Method field, or click Details or Calculate Issue List.

Issue Method

Two issue methods are available. You can choose one of the following:

- Backflush (default)

  When you set Issue Method to Backflush, the system follows the current backflush calculation method in use. The system only issues inventory from the backflush locations. For details about the backflush logic, see .

- Allocated

  When you set Issue Method to Allocated, the system considers only the allocated quantity regardless of its locations, and issues only the allocated inventory according to the picking logic. The sequence of picking allocated inventory considers both the consignment setting and the picking logic.

  Note Issue Method of Allocated does not apply to negative quantity processing scenarios.

  Consignment Integration with Allocations

If you include supplier-consigned inventory when reporting production operation activities, the system creates the RCT-PO and CN-ISS supplier-consignment transactions.

Note The **Inventory Control** view enables you to enter control settings for Inventory and Supplier Consignment. In **Inventory Control**, you can set the picking logic by choosing **Inventory** > **Picking Logic**. You can also go to the Supplier Consignment panel and set the Use Consignment First field to determine which inventory is processed first when Supplier Consignment is enabled.

When the system searches for locations, once a location is identified, the system applies the following logic to allocate inventory:

- When Use Consigned First is selected, the system allocates consigned inventory first.
- When Use Consigned First is not selected, the system allocates non-consigned inventory first.
- When Use Consigned First is Default, the system applies the picking logic.

For example, assume that 30 units of a component item are held in inventory at the specified work center backflush location, but only 10 units are allocated. In addition, another 10 units of the component item are held in inventory at another location and all are allocated.

When a quantity of 20 for this component item is required to issue:

- If you set Issue Method to Backflush: the system only issues inventory from the backflush location; therefore it issues all of the 20 units from the backflush location.
- If you set Issue Method to Allocated: the system considers only the allocated inventory regardless of its location. In this example, the system first issues the 10 units of allocated inventory from the backflush location, and then issues another 10 units from the other location.

Details

After selecting a component in the Issue Components grid, you can click Details to launch the **Issue Components** details page. You can then modify the inventory details for the component to issue. You can also add substitute items of the component, enter the quantity to issue, and specify the site, location, lot/serial, and reference.

Calculate Issue List

Click Calculate Issue List to make the system calculate the component issue list.

After you set Issue Method and click Calculate Issue List, the system automatically calculates and displays a list of components to issue in the grid below. You can then directly issue components according to the list calculated by the system. You can also modify the system-calculated list by clicking New, Delete, or Details above the grid, to issue the inventory as you want.

If any component's Quantity Issue is not 0 (zero), the system displays a confirmation message when you click Calculate Issue List, telling you the issue list is to be recalculated and prompting you to continue.

If any component's Quantity Issue is not 0 (zero) or if there is any manually added component in the current issue list, when you change the operation or the processed quantity, the system displays a warning message, telling you the component issue list is to be refreshed.

Note The system does not display this warning message when Auto Backflush is selected.

When you click Calculate Issue List, the consumed orders in the Order Consumption subpanel, which are at Firm Planned status, are changed to Exploded status immediately before you submit. That is because the system requires a fixed BOM or routing from the production order when calculating the component issue list.

After you set Issue Method and click Calculate Issue List, the system calculates the Quantity Issue values, and displays the inventory status in the grid below.

Note If there are any previous non-milestone backflush components that the system needs to process, it displays them in the issue list.

The Issue Components subpanel does not allow you to directly add the substitute item of a component to the issue list. To add such a substitute item, click Details to open the **Issue Components** details page and add it there.

Issue Components Details Page

The **Issue Components** details page displays the Summary and Main panels as well as a grid.

The Main panel displays the Total Quantity Required, Total Quantity Issue, and Issue Method fields. The Issue Method value defaults from the one specified for the component in the main Issue Components subpanel, but it is editable. Therefore you can apply an issue method specific to an Item/Operation combination.

You can click Calculate Issue List to let the system automatically calculate a default inventory issue list for the current Item/Operation combination. The grid lists the following fields:

- Component/Substitute Item

  Note When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

- Site
- Location
- Lot/Serial
- Reference
- Quantity Available

  This field displays the quantity of component items left available at the specified Site, Location, and Lot/Serial, after you enter a value in Quantity Issue. This value is calculated as the quantity of the component items held in inventory at the specified Site, Location, and Lot/Serial minus the Quantity Issue value. For example, when Issue Method is set to Allocated, and there are 10 units of this component item allocated at this site, location, and lot/serial, if you set to Quantity Issue to 8, the Quantity Available field displays 2.
  After you enter a Quantity Issue value and tab out of this field, the system automatically calculates the Quantity Available value and displays it.

- Quantity Issue
- UM
- Expire Date
- Inventory Status
- Grade
- Assay %
- Backflush Location
- Reserved Location
- Attribute Status

  The Attribute Status could be Conforming or Non-conforming.
  When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

When you click New above the grid, the Component/Substitute Item field is editable. You can directly enter an item code, or click the look-up to launch the **Item Substitutions** view and select a valid substitute item to add. For an existing record in this grid, only the fields Site, Location, Lot/Serial, Reference, and Quantity Issue are editable.

If there is insufficient inventory to issue when you use Issue Method of Backflush to calculate the issue list, the system defaults all remaining required quantity to the site/location combination with a blank Lot/Serial and a blank Reference.

When the item is lot-controlled or over-issue is not allowed, the system also highlights the record in red in the Component/Substitute Item cell, making it easier to identify.

For more details about component issue list calculation, see .

When you click Calculate Issue List on the **Issue Components** details page, if the component is a phantom or is a phantom's component, the system applies the phantom use-up logic. The system first issues the phantom's allocated inventory, and then explodes the remaining required quantity, if any, to the phantom's components. As both of them should be calculated together, in this case, the system displays an error message, prompting you to use the Calculate Issue List button in the main Issue Components subpanel instead (that is, the one displayed by choosing **Report Operation Activity** > **Operation Activity** > **Issue Components** in **Production Operations Reporting**).

Receive

The Receive subpanel is available only when the reporting operation is the last operation on the production order routing and the Move Next Operation field is selected.

The Receive subpanel allows you to receive finished goods into inventory without packaging or receive as packaged goods. To receive finished goods by pack, you can select the Receive by Pack field and set related Serialization fields.

The Receive subpanel allows you to review and modify the regulatory attributes for items held in inventory at a particular site and location. You can set regulatory attributes like Expire Date, Inventory Status, Grade, and Assay% in the heading frame or grid. In addition, if there are item attributes related to this item, you can also click Attributes to launch the **Attributes** details page for item attribute .

Note You do not need to have the Regulatory Attributes module to assign inventory statuses during receipt. However, this feature is especially useful in regulated environments. You can refer to the online help for**Inventory Detail** for more details about the Regulatory Attributes module. For detailed information about item attributes, see the online help for item attributes-related views such as **Item Lots** and **Item Attribute Profiles**.

The following fields are displayed in the heading frame of the Receive subpanel:

Total Quantity to Receive

Displays the quantity completed at this operation that is ready to be received into inventory, in inventory UM.

Total Quantity Received

Displays the sum of quantities you have entered in the Receive grid, in inventory UM.

Lot Control

Displays the Lot Control value of the item, which could be blank, Lot, or Single Lot.

The Lot Control value for the item determines if a lot or serial number is required. The Lot Control value, which is set in **Items**, is used as the default for all sites. You can set up site-specific values in the Site panel of **Items**.

Serial Control

Displays the Serial Control value of the item in **Items**.

The Serial Control value determines whether this item must be serialized, which could be either of the following:

- N (Never): This item is not serial-controlled, but the pack containing this item can have a serial.
- M (Mandatory): Each item in the inventory requires a serial.

Receive by Pack

This field displays only when Serialization is enabled.

Note To activate Serialization functions, select the Enable Serialization checkbox in the Serialization panel of **Inventory Control**. You can also define control settings for Serialization in this panel.

Clear this field if you want the system to receive finished products into inventory without packaging. For more details, refer to the section **Receiving Finished Production into Inventory Without Packaging**.

Select this field if you want to receive finished products into inventory as packaged goods in this transaction. The system then displays Serialization-related fields for you to receive serialized and non-serialized inventory into unit and assembly packs. Note that the system displays different Serialization fields, depending on the settings of the Auto Generate Packs and Receive Assembly Pack fields. For more details, refer to the section **Receiving Finished Production into Inventory as Packaged Goods**.

Expire Date

Specify the expiration date associated with this specific inventory quantity. The default is from the production order.

Inventory Status

Enter the inventory status code associated with this inventory quantity. The default is from the production order.

Inventory status codes identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference. They determine whether specific inventory balances on hand are:

- Available for allocation to sales orders or production orders
- Considered available by MRP
- Allowed to become negative

Inventory status codes can also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Grade

Enter the grade associated with this inventory quantity. The default is from the production order.

This value usually identifies inventory quality or physical properties. Graded products include raw materials, intermediates, and finished goods.

Assay % and grade can be important when allocating items. Specific formulations can require a minimum assay percentage or grade. Review these values prior to allocating or picking ingredients.

Default values for assay % and grade are set in **Production Orders**. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If no records exist, assay % defaults to 0.00% and grade defaults to blank.

Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Assay %

Enter the assay percentage associated with this inventory quantity. The default is from the production order.

Assay % usually identifies the percent solution.

When allocating items, assay % and grade can be important. Specific formulations can require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for assay % and grade are set in **Production Orders**. If these are blank or if the Regulatory Attributes module is not active,

values come from existing inventory detail records. If there are no existing records, assay % is set to 0.00% and grade is set to blank.

Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Use as Default

You can select this field to set the preceding regulatory attribute values, which you have entered in the heading frame, as the default attributes for all receipts on this order. For repetitive transactions, these values are stored and applied at the last operation.

When you select Use as Default, the system assigns the entered attribute values as defaults for the current and future receipts for the order. The Receipt Status, Expire Date, Grade, and Assay% fields for this order are updated accordingly in the Regulatory Attributes panel of **Production Orders** once you submit the receipt transaction.

If inventory with different attributes exists at the receipt site and location with the same lot/serial and lot reference number, an error displays and you cannot proceed. To correct this error, change the site or location, or specify a different lot or lot reference number.

Receiving Co/By-Products

For production orders with co/by-products, the Receive Co/By-Products subpanel replaces the Receive subpanel. The Receive Co/By-Products subpanel is available only when the reporting operation is the last operation on the production order routing and the Move Next Operation field is selected. This subpanel allows you to receive co/by-products into inventory.

You can click +New, Delete, or More above the Receive Co/By-Products grid to manually add new items, delete non-default items, or show them by a specific group.

The Receive Co/By-Product grid consists of the following fields:

Item

Displays the item to be received.

Description 1

This field displays the primary description of the item.

Co/By Type

Displays whether the item is a co-product or a by-product.

ID

Displays the co/by-product order ID for the item.

Total Quantity to Receive

Displays the quantity to be received of the co/by-product item based on the quantity completed of the base order.

Note For substitute or unexpected items this quantity is always zero (0) as the order quantity for these items is also zero (0).

Total Quantity Received

This field is displayed blank, initially. You can click Receive All Co/By Quantity to populate from Total Quantity to Receive or enter the quantity manually in the Details window.

When selecting Receive All Co/By Quantity, verify that the Total Quantity Received is updated for all items. If an item has Lot Control set to Single, use the Details window to specify a list of serial numbers to receive.

Quantity Scrapped

Displays the quantity scrapped in the operation.

UM

Displays the inventory unit of measure (UM) as default.

Substituted for Item

Displays the item being substituted.

Substituted for ID

Displays the ID for the item being substituted.

Note Substituted for Item and Substituted for ID columns are displayed only when receiving a substitute item in the operation.

In addition, the Receive Co/By-Products subpanel offers the following options above the grid:

- Details

  You can click on Details to display the Receive Co/By-Products window. This window consists of Summary, Main, and Receive panels.
  The Summary panel is located between the menu bar and the navigation bar. It displays the co/by-product Item reference and the order ID. These fields are read-only and stay in view even when you scroll down the page.
  The Main panel displays the Item reference of the selected co/by-product, the order ID, and the Co/By Type.
  The Receive panel allows you to review information and specify the scrap quantity for the operation. This panel includes the following fields in the header frame above the grid:

  - Total Quantity to Receive
  - Total Quantity Received

    Note Total Quantity to Receive and Total Quantity Received are read-only fields displayed with the corresponding unit of measure.

- Quantity Scrapped

  You can specify the scrap quantity for the selected co/by-product.

- Unit of Measure
- Conversion

  Note The Conversion and Unit of Measure fields support the Quantity Scrapped field.

- Lot Control
- Expire Date
- Inventory Status
- Grade
- Assay %
- Use as Default (checkbox)

Moreover, the Receive panel grid allows you to add or remove components, show them by a specific group, or click on Attributes to launch the **Attributes** details page for item attribute .

- Receive All Co/By Quantity

  You can click Receive All Co/By Quantity to update the Total Quantity Received. This option sets the default quantity for each item. You can also enter the quantity manually in the Details window.

- Receive Substitute

  To substitute an item from the Receive Co/By-Products subpanel, select the item from the grid and click Receive Substitute. This window allows you to specify or look for a substitute item. The Receive Substitute window contains Summary, Main, and Receive panels.
  The Summary panel displays the Item and ID of the selected item. The Substitute Item and Substitute ID information appears blank and is automatically updated when specifying a substitute item in the Main panel.
  The Main panel displays the Item and ID reference of the default item for the operation as read-only fields. You can specify the Substitute Item field manually or look for the item. After specifying the substitute item, the Substitute ID updates automatically, displaying the substitute item ID.
  The Receive panel allows you to specify the quantity scrapped for the substitute item. The header frame above the grid consists of the following fields:

  - Total Quantity Received

This quantity is updated automatically after specifying the Substitute Item field in the Main panel or entering the quantity manually in the Quantity column of the Receive grid.

- Quantity Scrapped

  For quantity processed, the original quantity is reduced according to the open quantity method defined in **Production Control**. For quantity complete, the scrap quantity does not affect original order quantity.

- Unit of Measure
- Conversion

  Note The Conversion and Unit of Measure fields support the Quantity Scrapped field.

- Lot Control
- Expire Date
- Inventory Status
- Grade
- Assay %
- Use as Default (checkbox)

In addition, the Receive panel allows you to add or remove items, show them by a specific group, or click on Attributes to launch the **Attributes** details page for item attribute . When using a substitute item to replace the original item, the system removes the inventory for the original item.

Note You can enter substitute items only for the original items of the operation.

Receiving Finished Production into Inventory Without Packaging

If Serialization is disabled, or if you set Receive by Pack to No when Serialization is enabled, the Receive grid consists of the following fields:

- Site

  Enter a valid site where items are stored. You cannot leave this field blank.

- Location

  Enter a valid location where items are stored.

- Lot/Serial

  Enter the lot/serial number of the items held.

  Note Lot/Serial may be affected by regulatory control.

- Reference

  Enter a reference for the item.

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.
The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

- Quantity

  Enter a quantity to receive.

- UM

  Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

- Conversion

  Enter a UM conversion.

- Expire Date

  Enter the expiration date associated with this specific inventory quantity.
  The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

  - For the item and site in the Site Inventory Exceptions grid on the Site panel of **Items**.
  - For the item in the Inventory panel of **Items**.

  Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.
  You can impose additional restrictions by setting Issue Days in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.
  Generally, you can use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Inventory Status

Enter the inventory status code to associate with this inventory quantity.
You can set up inventory status codes in **Inventory Status**.
Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- Inventory Status setting in **Inventory Detail**.
- Receipt Status setting in **Production Orders** when it is active.
- WO Receipt Status setting in the Site Inventory Exceptions grid on the Site panel of **Items** when it is active.
- WO Receipt Status setting in the Inventory subpanel of the Main panel in **Items** when it is active.
- Default inventory status for the receiving location or site, set up in **Locations** or **Sites**.

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers. Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Grade

  Enter the grade associated with this inventory quantity.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Assay %

  Enter the assay percentage associated with this inventory quantity.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

Use this subpanel to record the inventory that is not packaged. Enter specific data about the receipt, including site, location, total units, and more. When receiving finished goods into inventory, the system also updates the quantity completed and reduces the quantity open on the applicable scheduled production orders or split production orders.

You can click New to add new records, or click Delete to remove existing records. You can also double-click an existing record to modify its fields. By creating multiple records in this grid, you can receive inventory by specifying data like Site, Location, and Lot/Serial, to receive multiple lot/serials for an item.

You can set regulatory attributes, like Inventory Status, Expire Date, Grade, and Assay %, in this subpanel. Also, you can click Attributes to launch the **Attributes** details page for maintaining item attributes when there are item attributes associated with the item. Refer to for more information.

When lot control level is 1 or 2 in the Compliance panel of **Inventory Control**, you can receive only a single lot per transaction when the following are true:

- For discrete orders: When lot controlled and Single Lot is selected on the production order.
- For discrete schedule orders: When lot controlled or the Split CUM order has Single Lot selected.
- For Repetitive schedules: When the item is lot controlled and Single Lot per Repetitive Receipt is selected in the Compliance panel in **Inventory Control**.

Note When these conditions exist, you can still assign different locations for the receipt. Also, when you implement auto-lot numbering, you can receive only a single lot number per receipt regardless of the single-lot setting and lot control level set in the Compliance panel in **Inventory Control**.

Note that if the item's Lot Control is Single Lot:

- The default quantity to receive is 0 (zero) as the system cannot calculate the serial number with a quantity of 1 for each record without a serial rule (Lot/Serial).
- You could set the Lot/Serial and Quantity fields in this grid. When you tab out of the record, the system prompts you to create a list of serial numbers. If you answer Yes, the system automatically creates the Lot/Serial number based on the Lot/Serial number you entered into the Receive grid.

Receiving Finished Production into Inventory as Packaged Goods

When Serialization is enabled and you set Receive by Pack to Yes, the system displays the following Serialization fields in the heading frame of the Receive subpanel:

- Site

  Enter a valid site where items are stored. You cannot leave this field blank.

- Location

  Enter a valid location where items are stored or leave this field blank.

- Lot/Serial

  Enter the lot/serial number of the item held in the pack or leave this field blank.

If you are receiving packs that contain the same lot/serial, enter the lot/serial in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added. If you are receiving a mixed pack with different lot/serials, leave this field blank and enter the lot/serial in the grid.

- Reference

  Enter a reference for the item or leave this field blank.
  If you are receiving packs that contain the same reference information, enter the reference in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added. If you are receiving a mixed pack with different reference information, leave this field blank and enter the reference in the grid.

- Auto Generate Packs

  Select this option to populate the Receive grid with multiple unit packs at once based on the BOP Code entered. You can also populate the Receive grid with multiple assembly packs by selecting both Auto Generate Packs and Receive Assembly Pack.

  - **Receiving Multiple Unit Packs**

    When Auto Generate Packs is selected, the Number of Full Packs, Standard Pack Quantity, and Quantity in Partial Pack fields are displayed in the heading frame of the Receive subpanel. These fields allow you to easily populate the Receive grid with multiple unit packs. After entering the pack quantities, click Apply to populate the grid with the appropriate number of unit packs. Each time you click Apply, the Receive grid is updated to reflect the quantities entered in the Number of Full Packs, Standard Pack Quantity, and Quantity in Partial Pack fields.

    Note If there are packs available in the grid, when you click Apply, the system prompts you to replace or append the existing content in the grid. Choose Replace or Append as needed.

  - **Receiving Multiple Assembly Packs**

    When Auto Generate Packs and Receive Assembly Pack are both selected, the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields are visible in the heading frame of the Receive subpanel. These fields allow you to easily populate the Receive grid with multiple assembly packs. After entering the pack quantities, click Apply to populate the grid with the specified number of assembly packs. Each time you click Apply, the Receive grid is updated to reflect the quantities entered in the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields. Do not select Auto Generate Packs if you are scanning or generating the pack serials manually.

- Receive Assembly Pack

  Select this option if you are receiving a multi-level assembly pack. When this field is selected, the fields in the Receive grid allow you to enter the master pack information in the parent row and the lower-level pack information in the child rows.
  The Receive Assembly Pack field is disabled and cleared by default. It is enabled only when the Auto Generate Packs field is selected.
  If you are receiving multiple assembly packs, select both Receive Assembly Pack and Auto Generate Packs. When these fields are both selected, the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields are displayed above the Receive grid. These fields allow you to easily populate the Receive grid with multiple assembly packs. After entering the pack quantities, select Apply to populate the grid with the specified number of assembly packs. Each time you select Apply, the Receive grid is updated to reflect the quantities entered in the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields.

- BOP

  Enter the bill of packaging code or accept the default based on the inventory information entered in the heading frame of the Receive subpanel.
  In the Receive grid, the Pack Code defaults based on the BOP Code entered.

  Note If the Item/Site combination (or the item with a blank site) record exists in Dual Units of Measure:

  - The BOP must be defined as a one level structure in the Packaging Structures.
  - The BOP must have the Single Item and the Single Lot checkbox selected in Pack Codes.
  - The Pack Code UM must match Secondary Unit of Measure.
  - The BOP Quantity Per in Packaging Structures has to be equal to the Target Quantity or within the Tolerance limit set in Dual Units of Measure.

- Number of Full Packs

  Enter the number of full packs to receive. This field is only visible when Auto Generate Packs is selected.
  When you click Apply, the system adds the number of packs entered in this field to the Receive grid. Each pack that is added to the Receive grid contains the number of items entered in the Standard Pack Quantity field.

- Standard Pack Quantity

Enter the number of items in a standard pack. This field is only visible when Auto Generate Packs is selected.

- Quantity in Partial Pack

  If you are receiving a pack that is partially full, enter the number of items in that pack by using this field. This field is only visible when Auto Generate Packs is selected.

- Number of Assembly Packs

  Enter the number of assembly packs to receive. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.
  When you click Apply, the system adds the number of assembly packs entered in this field to the Receive grid. Each assembly pack that is added to the Receive grid contains the number of child packs entered in the Standard Assembly Pack Quantity field.

- Standard Assembly Pack Quantity

  Enter the number of child packs that each assembly pack contains. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.
  When you click Apply, the system adds the number of child packs entered in this field to each assembly pack in the Receive grid. Each child pack that is added to the Receive grid contains the number of items entered in the Standard Child Pack Quantity field.

- Standard Child Pack Quantity

  Enter the number of items in the child pack. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.

In the Receive grid, enter the information for the packs or items being received.

You can click +New Assembly, +New Unit, or +New Loose Inventory above the Receive grid to manually add more assembly packs, unit packs, or loose item inventory. You can also select a record in the grid, clear its Generate Item serial checkbox, and then click Item Serials to manually specify a serial ID for a serialized item. To add a child row, you can select the parent row and click +Child.

- +New Assembly

  Enables you to add an assembly pack.

- +New Unit

  Enables you to add a unit pack.

- +New Loose Inventory

  Enables you to add loose inventory.

- Item Serials

  Enables you to enter item unit serials manually. This button is only enabled when the item to receive is a serialized item unit (that is, the item's Serial Control field is set to Mandatory in **Items**) and Generate Item Serial is not selected in the Receive grid. When Generate Item Serial is selected, this button is disabled.

When Serialization is enabled and you select Receive by Pack, the Receive grid consists of the following fields:

- Level

  Displays the level of the pack in the serial hierarchy. Packs in the serial hierarchy are assigned Level values of 1, 2, 3, and so on, from top to bottom. For example, a pack record with Level of 1 indicates the serial of the master pack being received. If you select a master pack and click +Child, the system automatically adds a row under this pack row, and sets Level to 2 for the child row.

- Serial

  Enter the serial of the pack being received. Enter an existing serial or leave the field blank so that the system can generate the serial upon submission. When you manually enter a serial ID, the stage of the serial could be Active, New, Decommissioned, or Pending. You can also enter a serial ID that does not exist in the system.

- Pack Code

  Enter the pack code for the pack being received. The Pack Code defaults based on the BOP Code entered.

- Site

  Enter a valid site where items are stored. You cannot leave this field blank. This defaults from the Site field in the heading frame of the Receive subpanel.

- Location

  Enter a valid location where items are stored or leave this field blank. This defaults from the Location field in the heading frame of the Receive subpanel.

- Lot/Serial

  Enter the lot/serial number of the item held in the pack or leave this field blank.
  If you are receiving packs that contain the same lot/serial, enter the lot/serial in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added.
  If you are receiving a mixed pack with different lot/serials, leave the Lot/Serial field in the heading frame blank and enter the lot/serial in the grid.

- Reference

  Enter a reference for the item.
  If you are receiving packs that contain the same reference information, enter the reference in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added.
  If you are receiving a mixed pack with different reference information, leave the Reference field in the heading frame blank and enter the reference in the grid.

- Quantity

  Enter the quantity to be received.

- UM

  Displays the item's unit of measure.

- Generate Item Serial

  When selected, the system automatically generates serials for each inventory unit. The system only generates item unit serials if the item is serial-controlled (that is, the item's Serial Control field is set to Mandatory in **Items**).
  For a serial-controlled item, this option is automatically selected. If necessary, you can clear this checkbox. If the item is serial-controlled and this checkbox is not selected, the Item Serials button above the grid becomes enabled, allowing you to enter the item unit serials manually.
  If the item is not serial-controlled (that is, the item's Serial Control field is left blank in **Items**), the Generate Item Serial field is disabled and not selected.

For more details about how to use the Report Operation Activity action to receive serialized and non-serialized inventory into unit and assembly packs, see Using the Receive by Pack Function on page 3753.

Processing Options

The **Processing Options** panel allows you to to select or clear the Process In Background checkbox to send the operation report to your inbox. Selecting the Process In Background option enables the Background Processing Description creating a default reference including the ID and operation number.

Further Operations

When the reporting action is successful, you can click Done to return to the **Production Operations Reporting** browse; or click Report Another to go back to the Main panel for another round of reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Inventory Detail
- Inventory Transactions
- Item Packaging Assignments
- Items
- Packaging Structures
- Production Activity Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Serial History
- Serials
- Site Calendar
- Work Center Calendar
- Serialized Inventory
- WIP Status

For example, after reporting a reject or scrap quantity at an operation, you can open the **Production Activity Transactions** browse to view operation history records. After issuing components, you can check the inventory transaction history records in the **Inventory Transactions** browse. You can also check related operation information such as queue status using the **Production Order Routings** drill-down link.

General Ledger Effects

For general ledger (GL) effects on labor reporting transactions, refer to Report Labor Action on page 3636.

For GL effects on reject and scrap reporting transactions, refer to Report Rejects & Scrap Action on page 3647.

When you issue or backflush components from inventory to production, or receive quantities from production into inventory by taking the Report Operation Activity action, the system tracks and records the quantities issued or received. The following tables list GL information about standard and average costing transactions. You can refer to them to decipher transaction types that display in reports and browses and to understand how and when various transaction types are created.

Standard Costing Transactions

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue
Material Rate Variance	tr_hist ISS-WO	RATE-VAR	Material Rate Variance Account (Production Order)	WIP Account (Production Order)	Component Issue
Inventory Receipt	tr_hist RCT-WO	RCT-WO	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt
Production Receipt Method Variance	tr_hist RCT-WO	MTHD-CHG	Method Variance Account (Product Line)	WIP Account (Production Order)	Inventory Receipt

Standard Costing Transactions for Co/By-Products

Standard costing receipts do not create method change transactions for co/by-products.

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Inventory Receipt	tr_hist RCT-WO	RCT-WO	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt

Average Costing Transactions

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue
Inventory Receipt	tr_hist RCT-WO	RCT-AVG	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt

Average Costing Transactions for Co/By-Products

Receipt and Closing Order during transactions do not re-average co-product GL Cost. The co-product item is received at the GL current cost excluding the material at this level. The system posts the level overhead back to WIP.

Moreover, when Post Scrap is set to Yes, the system posts the scrap operation. The scrap transaction includes the current-level material cost by product.

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Inventory Receipt	tr_hist RCT-WO	RCT-AVG	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt
Scrap	tr_hist SCRAP -O	SCRAP	Scrap Account (Inventory Account/ Production Order)	WIP Account (Order)	Inventory Receipt

Report Labor Action

After selecting a production operation record in the **Production Operations Reporting** browse, you can choose Actions > *(Individual*) Report Labor to open the **Report Labor** window. Then you can report labor hours for this operation.

You can register labor spent in direct production at a manufacturing operation. You can also register labor spent in setting up production at a manufacturing operation. The value of the labor is added to work in process (WIP).

For fields in the **Report Labor** window, the system first defaults values from the production operation you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, as well as other data necessary to locate a new production order.

Note When you manually set the fields, you need to click Apply to make the search criteria take effect and let the system locate the order desired.

You can enter the data necessary to register the labor, setup, and down time in the Labor panel. You can also choose to close the operation.

This transaction creates an operation history record to record the labor reported at the operation. The total cumulative labor hours associated with the order is updated with the labor hours entered.

This function updates the WIP cost for discrete orders, discrete cumulative orders, and repetitive cumulative orders. If a discrete scheduled or repetitive scheduled order is selected according to the settings in the Order Selection sub-panel, the system will then find or create an appropriate cumulative order for recording the costs.

The **Report Labor** window also provides the drill-down link feature. By clicking on the link icon located on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation you are working on, including Total Labor, Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing. These fields are read-only and stay in view even when you scroll down the page.

Note The Total Labor field displays the sum of Actual Setup Time, Actual Run Time, and Actual Down Time.

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation labor transaction.

Production Line

Enter a code identifying the production line associated with this operation labor transaction.

Work Center

Enter a code identifying the work center associated with this operation labor transaction.

Machine

Enter a code identifying the machine associated with this operation labor transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation labor transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field, along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation labor transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system accesses the routing or process with a routing code equal to the item number.

BOM/Formula

Enter a valid BOM or formula code.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure

When a new production order is located and applied, the system updates the field values in this window according to the new order.

Labor

The Labor panel allows you to enter the data necessary to register the labor, setup, and down time.

Employee

Enter a valid employee for this operation labor transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Operation

Enter a valid operation code. The system defaults the current operation in this field. You can manually change it.

Work Center

Enter a code identifying the work center associated with this operation labor transaction.

Machine

Enter a code identifying the machine associated with this operation labor transaction.

Department

Enter a code identifying the department associated with this operation labor transaction.

Close Operation

Specify Yes to close the operation. Closing the operation closes any remaining component requirements and capacity requirements linked to this operation.

Note Closing an operation leads to consumption of component requirements, deletion of component allocations at the operation, and removal of allocation shortages that are no longer needed.

After closing an operation, the system creates GL transactions like Labor Setup, Labor Run, Burden Setup, and Burden Run Usage Variance if there is any different labor or setup time reported other than the standard one. Note that closing a scheduled order does not lead to creation of GL transactions.

Setup Labor

Use Standard Setup

Specify Yes to use the standard setup time that it takes to set up operations for the order, independent of order quantity.

When Yes, the system automatically displays the standard setup time, which is specified for this operation in **Production Order Routings**, in the Actual Setup Time field. To override the system pre-populated value, you can also manually change the Actual Setup Time value.

Start Setup

Enter the time of day when the setup of this operation was started.

Operations start after setup completes.

Setup time can be entered as a start setup time and a stop setup time. For example, if you began the setup work at eight and finished at nine-thirty in the morning, you could enter a start setup time of 08:00 and a stop setup time of 09:30. If you enter the start and stop setup time, the system calculates the Actual Setup Time value.

Note The system provides multiple views for reporting labor data. The default view displays all fields listed here. The system also allows you to enter labor time as an elapsed time or as a start and stop time.

In the view of the Elapsed Time mode, the Start Setup, Stop Setup, Start Run, and Stop Run fields are unavailable in the Setup Labor and Run Labor sub-panels; in the view of the Start & Stop Time mode, the Actual Setup Time and Actual Run Time fields are unavailable.

Stop Setup

Enter the time of day when the setup of this operation was completed, or if Start Setup time is 0 (zero), enter the total amount of time spent setting up this operation.

Setup time can be entered as a start setup time and a stop setup time. For example, if you began the setup work at eight and finished at nine-thirty in the morning, you could enter a start setup time of 08:00 and a stop setup time of 09:30. If you enter the start and stop setup time, the system calculates the Actual Setup Time value.

Actual Setup Time

Enter the actual time in decimal hours to prepare the work center to carry out the operation, independent of order quantity.

If you set both Start Setup and Stop Setup, the system automatically calculates the Actual Setup Time in unit of Hour. For example, when you enter a start setup time of 08:00 and a stop setup time of 09:30, the system displays 1.5 Hours in Actual Setup Time.

Note When Use Standard Setup is Yes, the system automatically displays the standard setup time, which is specified for this operation in **Production Order Routings**, in the Actual Setup Time field. You can manually change the Actual Setup Time value to override the system pre-populated value.

Setup Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, a valid earning code must be entered. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Run Labor

Start Run

Enter the time of day when work on this operation was started. An operation must be started after any setup has been completed. When reporting non-productive labor, you are reporting the amount of time spent not working.

Labor time can be entered as a start run time and a stop run time. For example, if you began work at ten in the morning and finished at eight in the evening, you could enter a start run time of 10:00 and a stop

run time of 20:00. If you enter the start and stop run time, the system calculates the Actual Run Time value.

Stop Run

Enter the time of day when work on this operation was completed, or if Start Run Time is zero, the total amount of time spent working on this operation. This time does not include setup time. When reporting non-productive labor, you are reporting the time spent not working.

Labor time can be entered as a start run time and a stop run time. For example, if you began work at ten in the morning and finished at eight in the evening, you could enter a start run time of 10:00 and a stop run time of 20:00. If you enter the start and stop run time, the system calculates the Actual Run Time value.

Actual Run Time

Enter the actual labor hours, in decimal format, that were spent at this operation for the quantity processed.

Hours entered are posted to the cumulative order and to the general ledger accounts for Work in Process and Labor. These hours are also recorded in an operation history record.

This transaction checks for the presence of consecutive prior non-milestone operations. For each, it implicitly reports labor based on the quantity processed and the labor hours required per unit. If the operation being reported against is also a non-milestone, implicit labor reporting is added to any labor hours entered.

Run Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, a valid earning code must be entered. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Down Labor

Start Down

Enter the time of day when down time began.

Down time can be entered as a start down time and a stop down time. For example, if down time started at eleven and finished at twelve in the evening, you could enter a start down time of 23:00 and a stop down time of 24:00. If you enter the start and stop down time, the system calculates the Actual Down Time value.

Stop Down

Enter the time of day when the down time stopped, or if Start Down Time is 0 (zero), the total amount of time spent in down time.

Down time can be entered as a start down time and a stop down time. For example, if down time started at eleven and finished at twelve in the evening, you could enter a start down time of 23:00 and a stop down time of 24:00. If you enter the start and stop down time, the system calculates the Actual Down Time value.

Actual Down Time

Enter the labor spent due to non-productive activities associated with a manufacturing operation, such as machine breakdown or material shortage.

Down Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, a valid earning code must be entered. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Reason

Enter a valid code set up in **Reason Codes**, for the down time.

You can modify the required fields in the Labor panel and select Submit to report the labor, setup, or down time, or close the operation.

When the reporting is successful, you can select Done to return to the **Production Operations Reporting** browse; or select Report Another to go back to the Main panel for another round of labor reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported labor, but any values in the Labor panel, which you updated last time, are cleared and set back to 0 (zero). You can then modify the desired fields for reporting again.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Operation Transactions
- Production Line Calendar
- Production Line Calendar Exceptions
- Production Order Routings
- Production Orders
- Site Calendar
- Site Calendar Exceptions

- Work Center Calendar
- Work Center Calendar Exceptions
- WIP Status

For example, you can open the **Operation Transactions** browse to view transaction history records. Assume that you have successfully completed a report labor action with Actual Setup Time set to 2.0 hours for a certain operation; the system generates and displays a transaction record with Transaction Type of SETUP and Actual Setup Time of 2.0 hours in the **Operation Transactions** browse. You can also check related information via the **Production Order Routings** drill-down link.

General Ledger Effects

Operation transactions are created when you take the Report Labor action. The system creates a SETUP, LABOR, or DOWNTIME transaction record for the setup time, labor hours, or down time reported for a production operation at a work center. Such records are used to track the status of production order operations, monitor performance of work centers, and update the general ledger (GL) for manufacturing costs. The GL amount is affected by the actual work center rate and the actual employee pay rate (Actual Pay Rate * Earning Code); the GL account is affected by the department used. For a site with the standard GL cost set, variances are generated when the actual rate is different from the production order rate. For a site with the average GL cost set, no variance is generated even though the actual rate is different from the production order rate.

Note For costing-related information, such as transaction types, GL transaction types, and labor rate variances, refer to the online help for Costing. For example, you can enter Costing Rules or Production Order Variance Rules in the search box of the online help to easily locate related documentation.

Recording Labor Transaction – Labor Cost

For labor cost for setup, run, and down hours, the system reports for the transaction work center using the labor rates. You can use the Labor panel in the **Report Labor** window to record the actual setup, run, and down times.

Note The actual labor rate (or setup rate) could be the actual pay rate for the employee (Actual Pay Rate * Earning Code) or the actual labor rate (or setup rate) for the work center.

Cost	DR	CR	Calculation
Setup labor	WIP	Setup labor	Standard Setup Labor = Operation Setup

Cost	DR	CR	Calculation
			Rate * Actual Setup Hours
Run labor	WIP	Run labor	Standard Run Labor = Operation Labor Rate * Actual Run Hours
Down labor	Cost of Production	Down labor	Standard Down Labor = Actual Labor Rate * Actual Down Hours

Recording Labor Transaction – Labor Rate Variance

The system determines setup and run labor rate variances using the difference between the actual pay rate for the employee and the expected work center labor rate for the work center on the production order routing operation.

Note The actual labor rate (or setup rate) could be the actual pay rate for the employee (Actual Pay Rate * Earning Code) or the actual labor rate (or setup rate) for the work center.

Cost	DR	CR	Calculation
Setup labor rate variance	Setup labor rate variance	WIP	Setup Labor Rate Variance = (Actual Setup Rate – Operation Setup Rate) * Actual Setup Hours
Run labor rate variance	Run labor rate variance	WIP	Run Labor Rate Variance = (Actual Labor Rate – Operation Labor Rate) * Actual Run Hours

Recording Labor Transaction – Burden Cost

The system calculates burden cost for setup, run, and down hours using the burden rates and percentages for the transaction work center.

Cost	DR	CR	Calculation
Setup labor burden	WIP	Setup burden	Setup Burden Cost = [(Operation Setup Rate * Operation Labor Burden%) + Operation Labor Burden Rate + (Operation Machine Burden Rate * Machines per Op)] * Actual Setup Hours
Run labor burden	WIP	Run burden	Run Burden Cost = [(Operation Labor Rate * Operation Labor Burden%) + Operation Labor Burden Rate + Operation Machine Burden Rate] * Actual Run Hours
Down labor burden	Cost of Production	Down burden	Down Burden Cost = [(WC Labor Rate * WC Labor Burden %) + WC Labor Burden Rate) * Actual Down Hours

Recording Labor Transaction – Burden Rate Variance

For burden rate variances for setup and run hours, the system calculates them using the difference between the actual machine and labor burden cost for the work center, and the expected machine and labor burden cost for the work center on the production order routing operation.

Note The actual labor rate could be the actual pay rate for the employee (Actual Pay Rate * Earning Code) or the actual labor rate for the work center.

Cost	DR	CR	Calculation
Setup labor burden rate variance	Setup burden rate variance	WIP	Setup Burden Rate Variance = [(Actual Pay Rate * WC Labor Burden %) + WC Labor Burden Rate + (WC Machine Burden Rate * Machines per Op on WC)] * Actual Setup Hours – [(Operation Setup Rate * Operation Labor Burden%) + Operation Labor Burden Rate + (Operation Machine Burden Rate * Machines per Op)] * Actual Setup Hours
Run labor burden rate variance	Run burden rate variance	WIP	Run Burden Rate Variance = [(Actual Labor Rate * WC Labor Burden%) + WC Labor Burden Rate + WC Machine Burden Rate)] * Actual Run Hours – [(Operation Labor Rate * Operation Labor Burden%) + Operation Labor Burden Rate + Operation Machine Burden Rate)] * Actual Run Hours

Report Rejects & Scrap Action

In manufacturing processes, it is often necessary to plan the production for more of a product than you actually need, because some of the items produced may not meet the specifications. Some of the components can also be unsuitable for production.

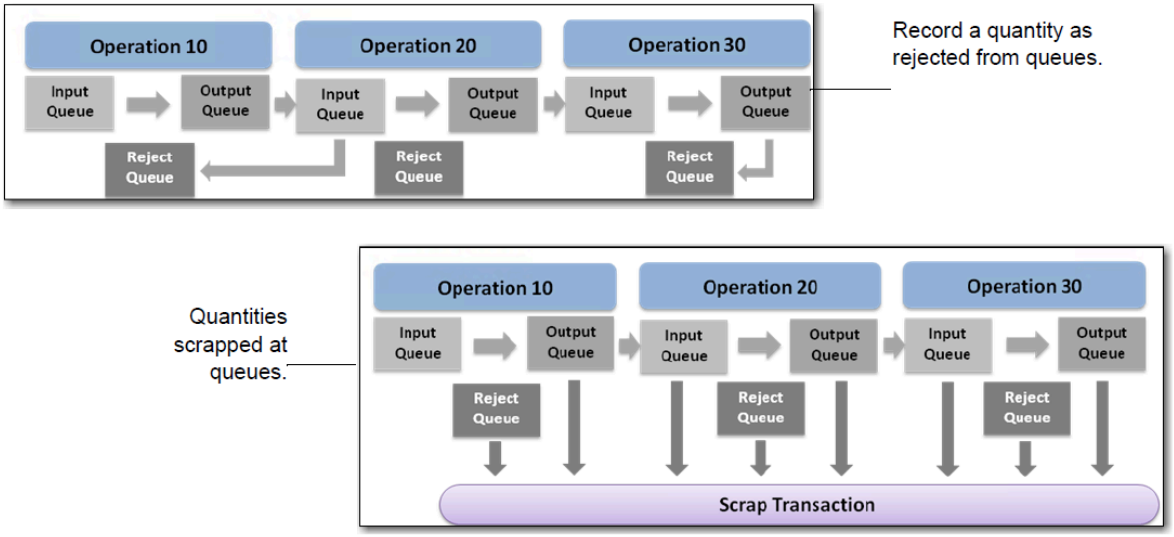
If an item produced does not meet the specifications set for the product, but has not yet been determined salvageable, you can report it as rejected. Rejects can then be determined as one of the following:

- Qualified and accepted
- Salvageable and queued up for rework
- Not salvageable and scrapped

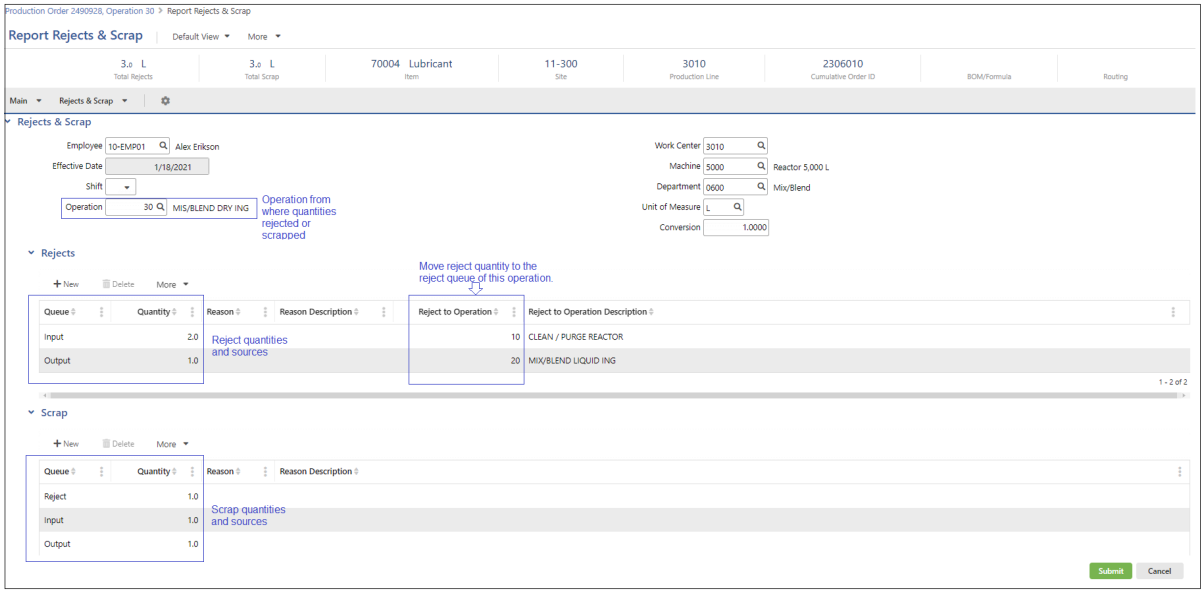
Record a quantity as rejected from the input queue and/or output queue for a production operation, and directed to the reject queue for either that operation or a previous operation. Because the quantity processed by a reject transaction is moved to the reject queue for an operation, there is no impact to production accounting and on the valuation of work-in-process.

If an item is determined unusable or unacceptable according to preset standards, report it as scrapped.

Quantities can be scrapped from any queue for a production operation —either the input queue, output queue, or reject queue for an operation. When a quantity is reported as scrap from the operation input, output, or reject queue, that quantity is deducted for the queue.



After selecting a production operation record in the **Production Operations Reporting** browse, you can choose Actions > *(Individual)* Report Rejects & Scrap to open the **Report Rejects & Scrap** window. Then you can report quantities rejected and/or scrapped from an operation queue.



For fields in the **Report Rejects & Scrap** window, the system first defaults values from the production operation you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, as well as other data necessary to locate a new production order.

Note When you manually set the fields, you need to click Apply to make the search criteria take effect and let the system locate the order desired.

You can enter the data necessary to report the quantities rejected and/or scrapped in the Rejects & Scrap panel.

When entering the quantity rejected, you must choose the queue to reject from, either the input or the output queue, as well as to which operation the reject is moved to. The reject queue of the operation is incremented.

When entering the quantity scrapped, you must specify to scrap from the input, reject, or output queue.

The **Report Rejects & Scrap** window also provides the drill-down link feature. By clicking on the link icon located on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation you are working on, including Total Rejects, Total Scrap, Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing. These fields are read-only and stay in view even when you scroll down the page.

Note The Total Rejects field displays the sum of quantities rejected in inventory UM, while Total Scrap displays the sum of quantities scrapped in inventory UM. Once you add a new record in the Rejects or Scrap grid, with a reject or scrap quantity entered, the value of Total Rejects or Total Scrap is updated automatically.

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation transaction.

Production Line

Enter a code identifying the production line associated with this operation transaction.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field, along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure

When a new production order is located and applied, the system updates the field values in this window according to the new order.

Rejects & Scrap

The Rejects & Scrap panel allows you to enter the data necessary to register the reject and scrap data and adjust from either the input, output, or reject queue.

The input queue holds quantities from the previous operation. The output queue holds quantities from the current operation that have not been moved to the next operation. The reject queue holds quantities rejected by the current or a subsequent operation. You can record multiple scrap and reject quantities with reason codes.

Employee

Enter a valid employee for this operation transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Operation

Enter a valid operation code. The system defaults the first milestone operation, which matches the filter criteria. You can manually change it.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Department

Enter a code identifying the department associated with this operation transaction.

Unit of Measure

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Conversion

Enter the unit of measure conversion.

Rejects

The Rejects grid allows you to specify the number of unacceptable units produced at this operation that cannot be moved to the next operation or that cannot be processed by the current operation.

You can click New to add new reject records, or click Delete to remove existing records. You can also double-click an existing record to modify its fields, including Queue, Quantity, Reason, and Reject to Operation.

Queue

Two options are available to choose:

- Output

  You can then specify the number of unacceptable units produced at the output queue for this operation. These are the unacceptable units that cannot be moved to the next operation.

- Input

  You can then specify the number of unacceptable units produced at the input queue for this operation. These are the unacceptable units that cannot be processed by the current operation.

If the current operation is the first one in the routing, you can set Queue to Output only.

Quantity

After you set Queue to Output or Input, you can then enter a value in Quantity to specify the number of unacceptable units produced at the output or input queue for this operation.

The default is 0.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the rejected quantity. You can also define a new one in **Reason Codes**.

Reason codes identify and categorize activities by reason; for example, sales lost because of price, downtime and rejects caused by machine failure, or user account deactivated because user left company.

For quantities rejected, you can create multiple records with different reasons.

Reason Description

This field is read-only, and displays the short description of the reason code.

Reject to Operation

Enter an operation code to move the reject quantity to this reject queue of this operation.

You must reference either the current operation or an operation that precedes it. The default is the current operation.

The Reject to Operation values could be different for each line in the Rejects grid.

Reject to Operation Description

This field is read-only, and displays the short description of the operation you entered in Reject to Operation.

Scrap

The Scrap grid allows you to enter the number of items to scrap from the input, output, or reject queues. This transaction is often used to scrap previously processed or rejected units.

Scrap transactions debit Scrap Account and credit WIP Account. Scrap transactions are not appropriate for components that are lost or unusable as a result of the manufacturing process.

Record multiple scrap quantities for the Input, Output, or Reject Queues. Specify reason codes for the scrapped quantities.

Queue

Three options are available:

- Output

  You can then specify the number of scrapped units produced at the output queue for this operation. These are the units that are scrapped; that is, the units that cannot be reworked.

- Input

  You can then specify the number of scrapped units produced at the input queue for this operation. These are the units that are scrapped; that is, the units that cannot be reworked.
  The quantity you enter is first moved back to the prior operation's output queue. The output queue of that operation is reduced by the scrap quantity. The quantity is registered as quantity scrapped at the prior operation.

- Reject

  You can then specify the quantity to scrap from the reject queue of the operation. These are the units that are scrapped; that is, the units that cannot be reworked.

If the current operation is the first one in the routing, you can set Queue to Output or Reject only.

Quantity

After you set Queue to Output, Input, or Reject, you can then enter a value in Quantity to specify the number of scrapped units produced at the output or input queue for this operation, or the quantity to scrap from the reject queue of the operation. The default is 0.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the scrapped quantity. You can also define a new one in **Reason Codes**.

Reason codes identify and categorize activities by reason; for example, sales lost because of price, downtime and rejects caused by machine failure, or user account deactivated because user left company.

For quantities scrapped, you can create multiple records with different reasons.

Reason Description

This field is read-only, and displays the short description of the reason code.

You can update the required fields in the Rejects & Scrap panel and click Submit to report the reject and scrap quantities.

When the reporting is successful, you can click Done to return to the **Production Operations Reporting** browse; or click Report Another to go back to the Main panel for another round of rejects or scrap reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Inventory Transactions
- Operation Transactions
- Production Line Calendar
- Production Line Calendar Exceptions
- Production Order Routings
- Production Orders
- Site Calendar
- Site Calendar Exceptions
- Work Center Calendar
- Work Center Calendar Exceptions
- WIP Status

For example, after reporting a reject or scrap quantity at an operation, you can open the **Operation Transactions** browse to view operation history records. You can also check related operation information such as queue status via the **Production Order Routings** drill-down link.

Reject and Scrap Effects

The processing of a reject quantity at an operation is recorded with one or more operation history transaction records. If the Reject To Operation is before the operation being reported, additional operation history records are generated to reflect the fact that the reject quantities were first moved back to the output queue of the Reject To Operation.

The processing of a scrap quantity at an operation queue is recorded with one or more operation history transaction records. These register the quantities scrapped at each of the operation's queues. Scrapping from the output and reject queues reduces their balances respectively. When scrapping from the input queue, the quantity is first moved to the output queue of the prior operation and then scrapped from there.

For scrapped quantities, the system creates consume inventory transactions (CONS-WO), regardless of the operation, for scrapped amounts for discrete, scheduled (repetitive and split), and co-product orders, when Quantity Open Method is Quantity Processed. The system increments the quantity scrapped on these orders regardless of the scrap operation.

When multiple entries of scrapped or rejected items have the same reason code, the quantities on these lines are summed into one transaction record.

This transaction does not backflush materials, labor, or burden. It should be used only when you know that a queue balance exists.

Accounting for Scrap

The system does not create general ledger (GL) entries for reject transactions.

When you take the Report Scrap action to record scrap quantities at an operation, the system optionally creates GL transactions for the quantities scrapped, based on the setting of the Post Scrap to GL field on the Production Orders panel of **Production Control**. You can configure the system to support the production accounting of scrap by selecting the Post Scrap To GL field. Then the system creates transactions that deduct the value of a quantity scrapped at an operation queue.

The value for the quantity scrapped is deducted from work-in-process and expensed to the scrap account. The scrap quantity is recorded for an operation queue. When the quantity scrapped is reported for the input queue for all but the first operation, the value for scrap is based on the value for work-in-process at the end of the previous operation. When

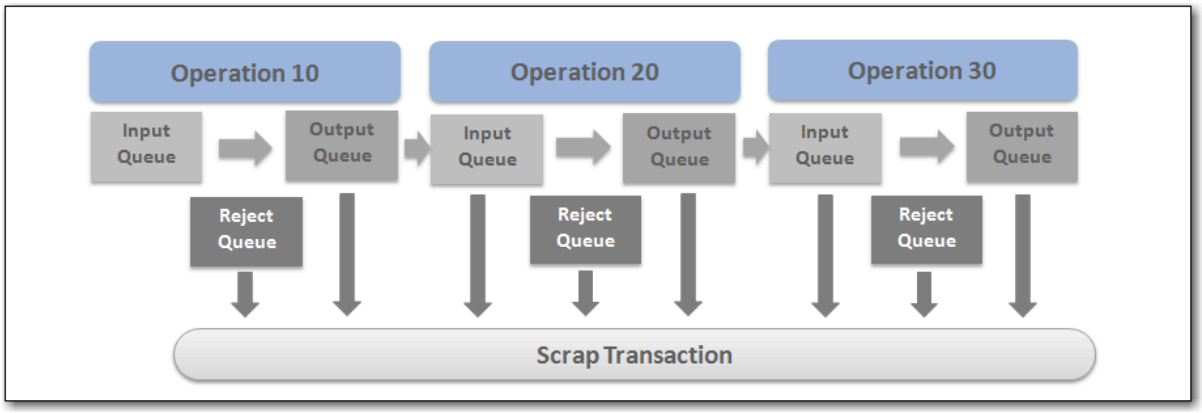
the quantity scrapped is reported for the output or reject queue of an operation, the value for scrap is based on the value for work-in-process after the work operation has been completed.

Note If Quantity Open Method is set to Quantity Completed in the Production Orders panel of **Production Control**, the system does not create an inventory history transaction record (tr_hist) with type CONS-WO when an item is scrapped.

Valuation of Scrap

For scrap calculations, the scrap transaction rolls up and totals the material, run-time labor, run-time burden, and subcontract costs by operation based on the production order reporting the scrap, using that order's routing and bill data to determine the value of the scrap at the operation where it is scrapped.

When the quantity scrapped is reported for the input queue for all but the first operation (SCRAP-I type), the value for scrap is based on the value for work-in-process at the end of the previous operation. When the quantity scrapped is reported for the output or reject queue of an operation (SCRAP-O or SCRAP-R type), the value for scrap is based on the value for work-in-process after the work operation has been completed.



The value for scrap from a production operation queue includes the value of materials issued or backflushed at operations, together with the value of floor stock. In addition to the scrap transaction, the system creates an additional floor stock transaction to recognize the cost of floor stock issued to work-in-process for the quantity scrapped, when the value of scrap at an operation includes a floor stock component. This additional floor stock transaction is necessary for the consistent recognition and processing of costs for floor stock by **Production Order Accounting Close**.

Standard/ Average Transaction	Transaction Type	GL Transaction Type	DR	CR
Scrap	op_hist SCRAP-I SCRAP-R SCRAP-O	SCRAP	Scrap Account (Inventory Account/ Product Line)	WIP (Production Order)
Scrap with Floor Stock	op_hist SCRAP-I SCRAP-R SCRAP-O	FLR-STK	WIP (Production Order)	Floor Stock (Production Order)

The scrap amount is the sum of Subcontract Cost, Labor Cost, Burden Cost, and Material Cost. The floor stock amount only includes the material cost for the component items with Issue Policy of No Issue.

Report Rework Action

Take the Report Rework action to move items back to a work center queue from a work center's reject queue after reworking them.

With the Report Rework action, you can transfer item quantities from the reject queue of a manufacturing operation to one of the following:

- The output queue of the operation at which you are reporting (that is, the reporting operation)
- The output or input queue of any operation after the reporting operation

The rework transaction generates operation history transactions of the REWORK type for the quantity processed.

In addition, you can take this action with labor hours reported or components issued. The time and material (components) recorded in this transaction are in addition to what was planned for the order; that is, the required time and material are not consumed by what the system records for this transaction.

If you manually record labor hours or issue components when taking the Report Rework action, the system automatically generates General Ledger (GL) transactions to cover the applicable rate and method variance. When you manually issue components in this action, the system also generates a transaction history record of the ISS-WO type to record each quantity issued. You can review transaction history records as needed.

In general, follow the guidelines when determining where to transfer reworked quantities.

- When the units in the reporting operation's reject queue were rejected from the input queue of a subsequent operation, you should transfer reworked units to one of the following:
  - The input queue of the subsequent operation that recorded the reject quantity
  - The output queue of the operation that performed the rework
- When the units were rejected from the output queue of a subsequent operation, you should transfer reworked units to one of the following:
  - The output queue of the subsequent operation that recorded the reject quantity
  - The input queue of the operation following the subsequent operation that recorded the reject quantity

Reworked quantities display as quantities completed on operation schedules. When you take the Report Rework action, the rework quantity is not processed for the automatic backflushing of additional component quantities. This is because a quantity that is reworked after being rejected from the output queue of an operation, or rejected from the input or output queue from a subsequent operation, was processed by an automatic backflush for quantities rejected for that operation. If you rework them to an operation preceding the rejecting operation, they undergo additional backflushing. If you rework them to the following operation, they escape normal backflushing.

When you take the Report Rework action for a discrete CUM order or a repetitive CUM order, the system does not consume any scheduled orders. Component issue, which occurs during the rework transaction, applies to the CUM order only and the scheduled orders remain unchanged during the rework.

When the rework transaction is on a discrete production order, issuing components leads to allocation or picklist adjustment if the inventory to be issued matches the allocated inventory. However, if the component to issue is a phantom item, the system does not modify the phantom item's allocation or picklist; it only updates the quantity required and the quantity issued.

Note After a discrete production order is reworked, if you then issue components in the Report Operation Activity action, the system uses the Qty Per defined in the production order BOM to calculate the component issue list, instead of using the dynamic Qty Per.

After selecting a production operation record in the **Production Operations Reporting** browse, you can choose Actions > *(Individual)* Report Rework to open the **Report Rework** screen.

There are three panels in the **Report Rework** screen: Summary, Main, and Rework.

For fields in the **Report Rework** screen, the system first defaults values from the production operation you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, and other data necessary to locate a new production order.

Note When you manually set the fields, you must click Apply to make the search criteria take effect and let the system locate the order desired.

The **Report Rework** screen also provides the drill-down link feature. By clicking the link icon on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation you are working on, including Total Reworked, Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing.

Note The Total Reworked field displays the sum of quantities you reworked against the current operation, in inventory unit of measure (UM).

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation transaction.

Production Line

Enter a code identifying the production line associated with this operation transaction.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure

When a new production order is located and applied, the system updates the field values in this screen according to the new order.

Rework

The Rework panel consists of a heading frame and three subpanels: Rework Detail, Run Labor, and Issue Components.

Employee

Enter a valid employee for this operation transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Operation

Enter a valid operation code. The system defaults the current operation. You can manually change it.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Department

Enter a code identifying the department associated with this operation transaction.

Unit of Measure

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Conversion

Enter the unit of measure (UM) conversion.

Rework Detail

In the Rework Detail subpanel, specify the operation and queue to which you want to transfer reworked items. You can also use the Quantity and Reason fields in the grid to record the end-item quantity to be moved out of the reporting operation’s reject queue and to associate a reason code with this quantity. You can assign multiple reason codes to rework quantities in the same transaction.

This subpanel consists of the following fields:

Rework To Operation

Specify the operation to which you transfer reworked items. The default is the reporting operation.

Rework To Queue

Specify the queue to which you transfer reworked items: Output or Input. The default is Output.

You can transfer quantities from the reject queue of a manufacturing operation to one of the following:

- The output queue of the reporting operation
- The output or input queue of any operation following the reporting operation

When the reporting operation is the last operation in the production order routing, both Rework to Operation and Rework to Queue fields are disabled and read-only. The system defaults Rework to Operation to the reporting operation, and Rework to Queue to Output in this case.

Quantity

Enter the quantity of reworked units.

Note The Total Reworked field in the Summary panel displays the sum of quantities you reworked against the current operation, in inventory unit of measure (UM). Once you add a quantity in this grid, the value displayed in Total Reworked automatically updates.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the reworked quantity. You can also define a new one in **Reason Codes**.

Reason codes identify and categorize activities by reason; for example, sales lost because of price, downtime and rejects caused by machine failure, or user account deactivated because user left company.

For quantities rejected, you can create multiple records with different reasons.

Reason Description

This field is read-only, and displays the short description of the reason code.

Run Labor

When taking the Report Rework action, you can also enter the labor hours for rework in the Run Labor subpanel.

Start Run

Enter the time of day when work on this operation was started.

Labor time can be entered as a start run time and a stop run time. For example, if you began work at ten in the morning and finished at eight in the evening, you could enter a start run time of 10:00 and a stop

run time of 20:00. If you enter the start and stop run time, the system calculates the Actual Run Time value.

Note The system provides multiple views for reporting labor data. The default view displays all fields listed here. The system also allows you to enter labor time as an elapsed time or as a start and stop time. In the view of the Elapsed Time mode, the Start Run and Stop Run fields are unavailable in this subpanel; in the view of the Start & Stop Time mode, the Actual Run Time field is unavailable.

Stop Run

Enter the time of day when work on this operation was completed, or if Start Run Time is zero, the total amount of time spent working on this operation. This time does not include setup time.

Labor time can be entered as a start run time and a stop run time. For example, if you began work at ten in the morning and finished at eight in the evening, you could enter a start run time of 10:00 and a stop run time of 20:00. If you enter the start and stop run time, the system calculates the Actual Run Time value.

Actual Run Time

Enter the actual labor hours, in decimal format, that were spent at this operation for the quantity reworked.

Run Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, a valid earning code must be entered. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Issue Components

Manually add components to issue as needed in the Issue Components subpanel. You can also remove existing components from this grid; or select a component and then click Modify Details to launch the **Issue Components** details page for modification.

The Issue Components grid displays the following fields:

- Component

  Specify the component to issue to the production order. The lookup of this field displays all the components available in the production order BOM. You can manually add components that are not in the production order BOM.

  Note When issuing a component that is not in the production order BOM, the system does not increase the component's quantity

required, as this may affect the dynamic per calculation in other transactions.

- Description 1

  This field is read-only and displays the primary description of the specified component.

- Description 2

  This field is read-only and displays the extra description of the specified component.

- Operation

  Specify an operation on the production order routing. The system defaults the operation that is defined for the specified component in the production order BOM. You can manually change it to another operation on the routing.

- Quantity Issue

  Displays the quantity of the component item to issue to the production order.

- UM

  Displays the unit of measure (UM) for stocking and planning this item. The default is the inventory UM.

The Component and Operation fields are editable only when you are adding new components to the grid. All the other fields are read-only.

When you take the rework transaction for a discrete production order, component issue leads to allocation or picklist adjustment if the inventory to be issued matches the allocated inventory. However, if the component to issue is a phantom item, the system does not modify the phantom item's allocation or picklist; it only updates the quantity required and the quantity issued.

After selecting a component in the Issue Components grid, you can click Modify Details to launch the **Issue Components** details page. You can then modify the inventory details for the component to issue. You can also add substitute items of the component, enter the quantity to issue, and specify the site, location, lot/serial, and reference.

The Issue Components subpanel does not allow you to directly add the substitute item of a component to the issue list. To add such a substitute item, click Modify Details to open the **Issue Components** details page and add it there.

Issue Components Details Page

The **Issue Components** details page displays the Summary and Main panels and a grid.

The Main panel displays the Total Quantity Issue field, indicating the total quantity issue for a single item-operation combination.

The grid lists the following fields:

- Component/Substitute Item

  Note When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

- Site
- Location
- Lot/Serial
- Reference
- Quantity Available

  This field displays the quantity of component items left available at the specified Site, Location, and Lot/Serial, after you enter a value in Quantity Issue. This value is calculated as the quantity of the component items held in inventory at the specified Site, Location, and Lot/Serial minus the Quantity Issue value. For example, when there are 10 units of this component item available at this site, location, and lot/serial, if you set to Quantity Issue to 8, the Quantity Available field then displays 2.
  After you enter a Quantity Issue value and tab out of this field, the system automatically calculates the Quantity Available value and displays it.

- Quantity Issue
- UM
- Expire Date
- Inventory Status
- Grade
- Assay %
- Backflush Location
- Reserved Location
- Attribute Status

  The Attribute Status could be Conforming or Non-conforming.
  When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

When you click New above the grid, the Component/Substitute Item field is editable. You can directly enter an item code, or click the lookup to launch the **Item Substitutions** view and select a valid substitute item to add. For an existing record in this grid, only the fields Site, Location, Lot/Serial, Reference, and Quantity Issue are editable.

Further Operations

When the reporting action is successful, you can click Done to return to the **Production Operations Reporting** browse; or click Report Another to go back to the Main panel for another round of reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Inventory Transactions
- Production Activity Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Site Calendar
- Work Center Calendar
- WIP Status

For example, after reporting a rework quantity at an operation, you can open the **Production Activity Transactions** browse to view operation history records. After issuing components, you can view the inventory transaction history records in the **Inventory Transactions** browse. You can also view related operation information such as queue status via the **Production Order Routings** drill-down link.

General Ledger Effects

For general ledger (GL) effects on labor reporting transactions, refer to Report Labor Action on page 3636.

When you issue or backflush components from inventory to production in the Report Rework action, the system issues quantities from inventory to a production order. The following tables list GL information about standard and average costing transactions. You can refer to them to decipher transaction types that display in reports and browses and to understand how and when various transaction types are created.

Standard Costing Transactions

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue
Material Rate Variance	tr_hist ISS-WO	RATE-VAR	Material Rate Variance Account (Production Order)	WIP Account (Production Order)	Component Issue

Average Costing Transactions

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue

Report Operation Move Action

With the Report Operation Move action in **Production Operations Reporting**, you can:

- Transfer a quantity from the output queue of a manufacturing operation to the input queue of the following operation.
- Receive a quantity to finished material inventory when there is no following operation.
- Move a quantity to the first operation. This applies only when the order was not moved to the first operation when it was released.
- Review and modify the regulatory attributes for items held in inventory at a particular site and location. In addition, if there are item attributes related to this item, you can launch the **Attributes** details page for item attribute .

The move transaction creates an operation history record (MOVE) to record the quantity moved to the operation. For finished goods received, the system increases inventory quantities, records transaction history, and updates the production order quantity completed.

After selecting a production operation record in the **Production Operations Reporting** browse, you can choose Actions > *(Individual)* Report Operation Move to open the **Report Operation Move** screen.

There are five panels in the **Report Operation Move** screen: Summary, Main, Move, Quantity, and Receive.

Note The Receive panel is available only when Move From Operation is the last operation in the production order routing.

For fields in the **Report Operation Move** screen, the system first defaults values from the production operation you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, as well as other data necessary to locate a new production order.

Note When you manually set the fields, you must click Apply to make the search criteria take effect and let the system locate the order desired.

The **Report Operation Move** screen also provides the drill-down link feature. By clicking the link icon located on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation you are working on, including Total Moved, Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing.

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation transaction.

Production Line

Enter a code identifying the production line associated with this operation transaction.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure

When a new production order is located and applied, the system updates the field values in this window according to the new order.

Move

The Move panel consists of a heading frame and the Operations subpanel.

Use the heading frame to enter the employee and shift.

Employee

Enter a valid employee for this operation transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Operations

Use the Operations subpanel to specify details of the move, such as whether to move to the first operation and from which operation. The system displays the from- and to-work center, machine, and department for the operation.

The Operations subpanel consists of the following fields:

Move to First Operation

Select this option to move the quantity to the input queue of the first operation; then specify the Quantity To Move in the Quantity panel.

Note When Move to First Operation is selected, the following fields are disabled and left blank: Move From Operation, From Work Center, From Machine, and From Department. When Move to First Operation is not selected, the system defaults the Move From Operation field to the first milestone operation.

Move From Operation

Specify a valid operation from which you want to move the quantity.

Note The system defaults this field to the first milestone operation when Move to First Operation is not selected.

After you set Move From Operation, the system automatically displays its next operation in the Move to Operation field.

From Work Center

This field is read-only and displays the work center of the Move From Operation.

From Machine

This field is read-only and displays the machine of the Move From Operation.

From Department

This field is read-only and displays the department of the Move From Operation.

Move to Operation

This field is read-only and displays the next operation of the Move From Operation. When Move From Operation is set to the last operation in the production order routing, the Move to Operation field is disabled and left blank.

To Work Center

This field is read-only and displays the work center of the Move to Operation. It is left blank when Move From Operation is set to the last operation in the production order routing.

To Machine

This field is read-only and displays the machine of the Move to Operation. It is left blank when Move From Operation is set to the last operation in the production order routing.

To Department

This field is read-only and displays the department of the Move to Operation. It is left blank when Move From Operation is set to the last operation in the production order routing.

Quantity

The Quantity panel consists of the following fields:

Move All

Select this option to make the system automatically default the current quantity of the Move From Operation's output queue to the Quantity to Move field.

When you are moving quantities to the first operation (that is, when Move to First Operation is selected), Move All is disabled and left cleared.

Quantity To Move

Specify the quantity to move from the output queue of the Move From Operation.

Unit of Measure

The system displays the unit of measure for the item.

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Conversion

Enter the conversion factor that determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure. The default is 1.0000.

Total Quantity

This field is read-only and displays the total quantity, which is calculated as follows based on the unit of measure for the item:

*Total Quantity = Quantity To Move * Conversion*

Receive

The Receive panel is available only when the Move From Operation field is set to the last operation in the production order routing. It allows you to receive finished goods into inventory. Upon receipt, the system increases inventory by the amount of the receipt, records the transaction history, and updates the production order quantity completed.

Note For receiving, the system first creates a production order receipt transaction (RCT-WO), followed by a production order consumption transaction (CONS-WO). You can view the records in **Inventory Transactions**.

When you receive lot-controlled items into inventory (Lot Control Level is set to 1 or 2 in **Inventory Control**), you can receive only a single lot per transaction when the following are true:

- For discrete orders: When lot controlled and Single Lot is selected on the production order or Single Lot Per REPET Receipt is selected in **Inventory Control**
- For discrete scheduled orders: When lot controlled or the split CUM order has Single Lot selected
- For repetitive schedules: When the item is lot controlled and Single Lot Per REPET Receipt is selected in **Inventory Control**

Note When these conditions exist, you can still assign different locations for the receipt. In addition, when you implement auto-lot numbering, you can receive only a single lot number per receipt regardless of the single-lot setting and lot control level set in **Inventory Control**.

If the item's Lot Control is Single Lot:

- The default Quantity to receive is 0 (zero) as the system cannot calculate the serial number with a quantity of 1 for each record without a serial rule (Lot/Serial).
- You could set the Lot/Serial and Quantity fields in this grid. When you tab out of the record, the system prompts you to create a list of serial numbers. If you answer Yes, the system automatically creates the Lot/Serial number based on the Lot/Serial number you entered into the Receive grid.

The system displays one receipt record for the Quantity to Move by default. You can click New to add more records, or click Delete to remove existing records. You can also double-click an existing record to modify its fields. By creating multiple records in this grid, you can receive inventory by specifying Item, Site, Location, and Lot/Serial.

The Receive panel also allows you to review and modify the regulatory attributes for items held in inventory at a particular site and location. You can set regulatory attributes like Expire Date, Inventory Status, Grade, and Assay% in the heading frame or grid. In addition, if there are item attributes related to this item, you can also click Attributes to launch the **Attributes** details page for item attribute . Refer to for more information.

Note You do not need to have the Regulatory Attributes module to assign inventory statuses during receipt. However, this feature is especially useful in regulated environments. You can refer to the online help for **Inventory Detail** for more details about the Regulatory Attributes module. For detailed information about item attributes, see the online help for item attributes-related views such as **Item Lots** and **Item Attribute Profiles**.

Three fields are displayed above the grid for your reference:

Total Quantity to Receive

Displays the quantity completed at this operation, which is ready to be received into inventory, in inventory UM. The Total Qty to Receive value is always equal to the Qty to Move value.

Total Quantity Received

Displays the sum of quantities you have entered in the Receive grid, in inventory UM.

Lot Control

Displays the Lot Control value of the item, which could be blank, Lot, or Single Lot.

The value of Lot Control for the item determines if a lot or serial number is required.

Serial Control

Displays the Serial Control value of the item in **Items**.

The Serial Control value determines whether this item must be serialized, which could be either of the following:

- N (Never): This item is not serial-controlled, but the pack containing this item can have a serial.
- M (Mandatory): Each item in the inventory requires a serial.

Expire Date

Specify the expiration date associated with this specific inventory quantity. The default is from the production order.

Inventory Status

Enter the inventory status code associated with this inventory quantity. The default is from the production order.

Inventory status codes identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference. They determine whether specific inventory balances on hand are:

- Available for allocation to sales orders or production orders
- Considered available by MRP
- Allowed to become negative

Inventory status codes can also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Grade

Enter the grade associated with this inventory quantity. The default is from the production order.

This value usually identifies inventory quality or physical properties. Graded products include raw materials, intermediates, and finished goods.

Assay % and grade can be important when allocating items. Specific formulations can require a minimum assay percentage or grade. Review these values prior to allocating or picking ingredients.

Default values for assay % and grade are set in **Production Orders**. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If no records exist, assay % defaults to 0.00% and grade defaults to blank.

Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Assay %

Enter the assay percentage associated with this inventory quantity. The default is from the production order.

Assay % usually identifies the percent solution.

When allocating items, assay % and grade can be important. Specific formulations can require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for assay % and grade are set in **Production Orders**. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, assay % is set to 0.00% and grade is set to blank.

Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Use as Default

You can select this field to set the preceding regulatory attribute values, which you have entered in the heading frame, as the default attributes for all receipts on this order. For repetitive transactions, these values are stored and applied at the last operation.

When you select Use as Default, the system assigns the entered attribute values as defaults for the current and future receipts for the order. The Receipt Status, Expire Date, Grade, and Assay% fields for this order are updated accordingly in the Regulatory Attributes panel of **Production Orders** once you submit the receipt transaction.

If inventory with different attributes exists at the receipt site and location with the same lot/serial and lot reference number, an error displays and you cannot proceed. To correct this error, change the site or location, or specify a different lot or lot reference number.

The Receive grid consists of the following fields:

- Site

  Enter a valid site where items are stored. You cannot leave this field blank.

- Location

  Enter a valid location where items are stored.

- Lot/Serial

  Enter the lot/serial number of the items held.

  Note Lot/Serial may be affected by regulatory control.

- Reference

  Enter a reference for the item.

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.
The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

- Quantity

  Enter a quantity to receive.

- UM

  Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

- Conversion

  Enter a UM conversion.

- Expire Date

  Enter the expiration date associated with this specific inventory quantity.
  The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

  - For the item and site in the Site Inventory Exceptions grid on the Site panel of **Items**.
  - For the item in the Inventory panel of **Items**.

  Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.
  You can impose additional restrictions by setting Issue Days in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.
  Generally, you can use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Inventory Status

Enter the inventory status code to associate with this inventory quantity.
You can set up inventory status codes in **Inventory Status**.
Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- Inventory Status setting in **Inventory Detail**.
- Receipt Status setting in **Production Orders** when it is active.
- WO Receipt Status setting in the Site Inventory Exceptions grid on the Site panel of **Items** when it is active.
- WO Receipt Status setting in the Inventory subpanel of the Main panel in **Items** when it is active.
- Default inventory status for the receiving location or site, set up in **Locations** or **Sites**.

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers. Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Grade

  Enter the grade associated with this inventory quantity.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Assay %

  Enter the assay percentage associated with this inventory quantity.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

Further Operations

When the reporting action is successful, you can click Done to return to the **Production Operations Reporting** browse; or click Report Another to go back to the Main panel for another round of reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Inventory Detail

- Inventory Transactions
- Production Activity Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Site Calendar
- Work Center Calendar
- WIP Status

For example, after reporting a move quantity at an operation, you can open the **Production Activity Transactions** browse to view operation history records; or view the quantities at the input and output queues using the **WIP Status** report. After receiving inventory, you can also view the inventory transaction history records in the **Inventory Transactions** browse. You can also view related operation information such as queue status via the **Production Order Routings** drill-down link.

General Ledger Effects

When you receive quantities from production into inventory through the Report Component Move action, the system tracks and records completed quantities received into inventory from production.

The following tables list GL information about standard and average costing transactions. You can refer to them to decipher transaction types that display in reports and browses and to understand how and when various transaction types are created.

Standard Costing Transactions

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Inventory Receipt	tr_hist RCT-WO	RCT-WO	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt
Production Receipt	tr_hist RCT-WO	MTHD-CHG	Method Variance Account	WIP Account	Inventory Receipt

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Method Variance			(Product Line)	(Production Order)	

Average Costing Transactions

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Inventory Receipt	tr_hist RCT-WO	RCT-AVG	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt

Report Component Issue Action

Most production orders list their required components. When materials are issued from inventory to manufacturing, the Report Component Issue action records the transfer, decreasing inventory costs and quantities and increasing work in process (WIP).

Issues are only processed against allocated or released production orders. Issues are not restricted to what the system has allocated. You can override the selections manually. The production order and inventory balances are updated only after approval of the quantities to issue from inventory.

Multiple issues can be processed against an open production order, with one or more issues of each component.

Material Planning plans for open component requirements. Issuing a required component (or an approved substitute) decreases the quantity required of that item for planning. It also increases the value of WIP, as do unplanned issues, which are component issues not listed on the production order. You can issue more or less than needed of any item.

Take the Report Component Issue action when you want to issue components with Issue Policy of Direct, for example, for components that are not backflushed within the Report Operation Activity transaction. The Report Component Issue action does not use a picklist, but it proposes to issue according to the allocations of the components.

Note When Serialization is enabled, you can select Issue by Pack to issue inventory for serialized items and packs.

When you take the Report Component Issue action, the system first identifies a discrete production order, a discrete scheduled order, or a repetitive order based on the selection criteria you set. It then follows the consumption logic as it does in other report transactions, but identifies only one open order. The order status must meet the production activity threshold and cannot be Closed. When you click Calculate Issue List, only components with Issue Policy of Direct are automatically calculated by the system for issuing to the order.

QAD Web UI provides two ways for you to launch the **Report Component Issue** window; you can then report component issue by operation or by order:

- Select a production operation record in the **Production Operations Reporting** browse, and then choose Actions > *(Individual)* Report Component Issue.
- Select a production order record in the **Production Orders Reporting** browse, and then choose Actions > *(Individual)* Report Component Issue.

Note If you take the Report Component Issue action in **Production Operations Reporting**, the system defaults the Issue By field to Operation and displays the Operation field below. If this action is launched from **Production Orders Reporting**, the system defaults the Issue By field to Order, without displaying the Operation field. You can modify the Issue By field as you want.

There are three panels in the **Report Component Issue** window: Summary, Main, and Issue.

For fields in the Main panel of the **Report Component Issue** window, the system first defaults values from the production operation or order you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, as well as other data necessary to locate a new production order.

Note When you manually set the fields, you must click Apply to make the search criteria take effect and let the system locate the order desired.

The **Report Component Issue** window also provides the drill-down link feature. By clicking the link icon located on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation or order you are working on, including Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing.

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation transaction.

Production Line

Enter a code identifying the production line associated with this operation transaction.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field, along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure

When a new production order is located and applied, the system updates the field values in this window according to the new order.

Issue

The Issue panel consists of a heading frame and a grid, allowing you to issue inventory to a production order.

The heading frame displays the following fields:

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field displays the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Issue By

Specify to issue the components by operation or by order.

If you take the Report Component Issue action in **Production Operations Reporting**, the system defaults the Issue By field to Operation and displays the Operation field below. If this action is

launched from **Production Orders Reporting**, the system defaults the Issue By field to Order, without displaying the Operation field.

You can manually change the value from the default to another. For example, when you take this action in **Production Orders Reporting**, the system defaults the Issue By field to Order; but you can manually change the value of Issue By from Order to Operation. The system then displays the Operation field, allowing you to specify an operation for selecting components to display as candidates for issue.

Operation

Specify an operation, which is used for selecting components to display as candidates for the issue.

You can enter an operation number to view only the components required at that operation. Leave the Operation field blank to view all components.

Note The Operation field is available only when Issue By is set to Operation. When you launch this action in **Production Operations Reporting**, the system defaults the Operation field to the reporting operation. You can manually change the value from the default to another.

Issue Method

Specify the default quantity to issue. Three options are available:

- Open Quantity (default)

  Only the components remaining to be issued are included in the issue. The open quantity is calculated as follows:
  Qty Open = Qty Required - Qty Issued - Qty Picked
  The system identifies all components for the specified operation, if any, and its preceding non-milestone operations. When calculating the list of components to issue, the system first selects the items that were allocated and adds them to the list. Components for which the requirements have not been fully satisfied are also added to this list, through the same calculation logic used by order allocation for identifying inventory locations.

- Allocated

  Items with an open detail allocation are automatically included in the issue.
  The system identifies all components for the specified operation, if any, and its preceding non-milestone operations. When building the list of components to issue, the system selects the items that were detail-allocated to this order and adds them to the list.

- None

The system does not calculate the issue quantity, so you must manually enter the items to issue them to the order.

Closed or hold operations are not processed.

When you do not specify an operation (that is, you leave the Operation field blank), the system identifies all components for the order.

Note The Issue Method field is disabled when Issue by Pack is selected.

Issue by Pack

This field displays only when Serialization is enabled.

Note To activate Serialization functions, select Enable Serialization in the Serialization panel of **Inventory Control**. You can also define control settings for Serialization in this panel.

Select this field if you want to perform component issue with Serialization in this transaction. The system then displays Serialization-related fields in the grid below for you to issue inventory from unit packs or assembly packs, or to issue lower-level packs from master packs. For more details, refer to the section **Component Issue with Serialization**.

Clear this field if you want the system to perform component issue without Serialization. You can click Calculate Issue List above the grid. The system automatically calculates and displays a list of components to issue in the grid below. You can issue components according to the list, or modify the list and issue inventory as you want. For more details, refer to the section **Component Issue without Serialization**.

Component Issue with Serialization

When Serialization is enabled, the system displays the Issue by Pack field in the heading frame of the Issue panel. You can select Issue by Pack and then enter data associated with the Serialization solution to issue components by pack. This helps you track and trace the issue of serialized items and packs that are associated with a production order.

The Issue grid displays the following fields:

- Issue

  Select the Issue checkbox for the pack to be issued. You can issue inventory from a unit or assembly pack, or issue a lower-level pack from a master pack.
  When you enter the serial of an assembly pack, which contains lower-level packs, in the Serial field, the assembly pack information is displayed in the parent row and the lower-level packs are displayed in the child rows. You can select the Issue checkbox in the parent row to issue the whole assembly pack. You can also manually select or clear the Issue checkboxes in the child rows to issue some of these lower-level packs.

When you enter the serial of a unit pack that contains non-serialized items, in the Serial field, the system displays the pack information in a row. You can edit the Quantity Issue field to issue all or part of the inventory in the pack.
When you enter the serial of a unit pack that contains serialized items, in the Serial field, the pack information is displayed in the parent row and the serialized item information is displayed in the child rows.
You can select the Issue checkbox in the parent row to issue the whole pack. If you want to issue a partial quantity of the pack, you can manually select or clear the checkboxes for the serialized items in the child rows.

Note In the parent row, you must click the arrow in front of Issue to expand the serial hierarchy and view the lower levels.

- Serial

  Enter the serial of the pack to be issued. You can enter an existing serial. You can also leave this field blank and enter a non-serialized item component in the Item field to issue its loose inventory.
  After you enter the serial of a pack and tab out of the Serial field, the system automatically displays a row in this grid, providing information about this pack.
  You can enter unit packs, assembly packs, and loose serialized items in Active stage; or lower-level child packs or serialized items that are aggregated on an active master pack.
  The pack or item serial ID that you enter can be Active or Aggregated on an active master pack. If the entered serial ID is aggregated on an active master pack, the system notifies you that it will be removed from the master pack. When issuing inventory from a pack that is Aggregated, the system first removes the pack from the master pack.

- Pack Code

  The pack code for the serial you entered.

- Pack Code Description

  The description of the pack code.

- Stage

  The serial stage for the entered serial.
  Serial stages are codes used to track the current situation of a serial number before, during, and after inventory processing. These codes include system- and user-defined codes for active serial numbers related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

- Operation

  The operation where the components are in use. The Operation field is left blank by default.

After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation above the grid. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid. When you submit the transaction, the system issues the serial IDs against the specified operation and its preceding non-milestone operations.
If the component is defined on multiple operations in the production order bill, the system first issues components to the operation with the earliest component issue date. If the component issue dates of the operations are the same, the system issues components to the operations in ascending order. If there is a component that has been defined on a blank operation and on some other operations in the production order bill, the system first issues the components to the blank operation, and then issues the extra quantity to the other operations. If all the requirements are satisfied, the over-issued quantity is added to the operation with the latest issue date (or to the last operation when the issue dates are the same), which includes this component.

- Item

  The item in the pack that is to be issued.

- Site

  The site where the pack is stored.

- Location

  The location where the pack is stored.

- Lot/Serial

  The lot/serial number of the items held in the pack.

- Reference

  Reference for the items.

- Quantity In Pack

  The quantity that is currently in the pack.

- Quantity Issue

  Enter the quantity to be issued. This field defaults to the Quantity in Pack value.
  When the serial ID is of a unit pack that only contains non-serialized items of a single combination of item, lot, and reference, the Quantity Issue field is editable. You can issue all or part of the inventory in the pack.

- UM

  The item's unit of measure.

- External Serial

  The external serial provided by the supplier for the serial selected. External Serial and Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

To issue components by pack, identify a production order in the Main panel, set required fields as needed, and select the Issue By Pack field in the Issue panel. Then you can set the Serialization data in the Issue grid.

After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid.

With this function, you can:

- Issue assembly packs, either full packs or some of its lower-level packs.
- Issue unit packs, either full packs or part of its inventory.
- Issue serialized items that are not in packs.
- Issue non-serialized items that are not in packs.

Once you confirm that packs are correct, the system issues the components as follows:

- For all packs, when the system issues all content, it changes the stage to Decommissioned.
- For all serialized items, it changes the stage to Consumed, but maintains the item, lot/serial, reference, and production order information.

For details about how to use this function to issue components by pack, refer to Using the Issue by Pack Function on page 3749.

Component Issue without Serialization

Do not select the Issue by Pack field when you want to perform component issue without Serialization.

After setting Issue Method, you can click Calculate Issue List to make the system automatically build a list of components to issue according to the BOM of the CUM order or discrete production order. The system then displays the calculated component issue list in the grid. You can manually modify the system-calculated issue list to issue inventory as you want.

Note If you take the Report Component Issue action in **Production Operations Reporting**, the system defaults the Issue By field to Operation and sets the Operation field to the specified operation automatically. It also defaults the components of the selected operation and its previous non-milestone operation to the component issue list. If

this action is launched from **Production Orders Reporting**, the system defaults the Issue By field to Order and defaults all components with Issue Policy of Direct to the component issue list.

The Issue grid displays the following fields:

- Status

  Inventory status icons, which are displayed in the Status column, can be any of the following:

  - A green circle with a check mark inside (): displays when the Quantity Issue value matches the Quantity Required value.
  - A yellow triangle with an exclamation mark inside (): displays when the Quantity Issue value does not match the Quantity Required value.

    Note When the component is associated with attributes and there is any non-conforming attribute, this icon displays even though the Quantity Issue value matches the Quantity Required value. A tooltip stating "Inventory attributes values not conforming with order" also pops up when you hover the mouse pointer over the icon. In this case, you can select the component record and click Details to launch the **Issue Components** details page for maintaining the item attribute status.
  - An empty gray circle (): displays when the Quantity Issue value is 0 (zero). This is the initial status before calculation.
  - A red circle with a cross inside (): displays when the calculated inventory cannot be issued.
- Component

  Specify the component to issue to the production order. The lookup of this field displays all the components available in the production order BOM.
- Description 1

  This field is read-only and displays the primary description of the specified component.
- Description 2

  This field is read-only and displays the extra description of the specified component.
- Operation

  Specify an operation on the production order routing. The system defaults the operation that is defined for the specified component in the production order BOM. You can manually change it to another operation on the routing.

- Quantity Required

  Displays the original component quantity required for the production order.

- Quantity Issue

  Displays the quantity of the component item to issue to the production order.
  Issues are not restricted to what the system has allocated. You can override the selections manually by clicking Details and then entering a quantity there. The production order and inventory balances are updated only after approval of the quantities to issue from inventory. When you enter more quantities or negative quantities for an item, the quantity allocated cannot become more than the quantity required or less than zero (0). It is set to the quantity required or the quantity open, whichever is less.

- UM

  Displays the unit of measure (UM) for stocking and planning this item. The default is the inventory UM.

- Issue Policy

  Displays the issue policy of the component, which can be Backflush, Direct, or No Issue.

  - Backflush: Component inventory for the item is consumed by production by using the Report Operation Activity or Receive Order action.
  - Direct: Issue Direct to Order. Component items are issued directly to the production order (as opposed to backflushed).
  - No Issue: Component items are floor stock. They are not consumed by production and are not processed by inventory transactions.

- Phantom

  Indicates whether this component is a phantom item. The Phantom checkbox is selected when the component is a phantom item.

  Note For a phantom item, the system defaults the allocated quantity as the quantity to issue even though you set Issue Method to Open Quantity. If you set Issue Method to None, the quantity required is treated as the allocated quantity. When you issue a quantity greater than the allocated quantity, the residual quantity is treated as over-issue and does not affect its components' required quantities.

The Component and Operation fields are editable only when you are adding new components to the grid. All the other fields are read-only.

You cannot delete any component whose Issue Policy is Direct from the default component issue list. However, for those with non-Direct Issue Policy, you can remove them from the list. You can also manually add more components to the list. If you want to issue components that are not in the production order bill, set Modify Component Issue to selected in **Inventory Control**.

Above the grid, you can click Details or Calculate Issue List.

Details

After selecting a component in the Issue grid, you can click Details to launch the **Issue Components** details page. You can then modify the inventory details for the component to issue. You can also add substitute items of the component, enter the quantity to issue, and specify the site, location, lot/serial, and reference. When the component is associated with attributes, you can also view its Attribute Status in the grid.

Calculate Issue List

You can click Calculate Issue List to make the system calculate the component issue list.

If there is any manually added component in the current issue list and its Quantity Issue is not 0 (zero), the system displays a warning message when you click Calculate Issue List, telling you that the component issue list is to be refreshed.

If the order status is not Released and meets the production activity threshold, the system automatically explodes the order when you click Calculate Issue List. For example, if the consumed order is at Firmed status, the system automatically changes its status from Firmed to Exploded once you click Calculate Issue List.

After you set Issue Method and click Calculate Issue List, the system calculates the Quantity Required and Quantity Issue values, and displays the inventory status in the grid below.

Note If there are any previous non-milestone direct issue components that the system must process, it displays them in the issue list.

As components are issued, the system updates or removes detail allocations for the order and for the operation. The system also removes the allocated shortages that are no longer needed.

The Issue panel does not allow you to directly add the substitute item of a component to the issue list. To add such a substitute item, click Details to open the **Issue Components** details page and add it there.

Issue Components Details Page

The **Issue Components** details page displays the Summary and Main panels as well as a grid.

The Main panel displays the Total Quantity Required, Total Quantity Issue, and Issue Method fields in the heading frame. The Issue Method value defaults from the one specified for the component in the main Issue panel, but it is editable. Therefore you can apply an issue method specific to an Item/Operation combination.

You can click Calculate Issue List to let the system automatically calculate a default inventory issue list for the current Item/Operation combination. The grid lists the following fields:

- Component/Substitute Item

  Note When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

- Site
- Location
- Lot/Serial
- Reference
- Quantity Available

  This field displays the quantity of component items left available at the specified Site, Location, and Lot/Serial, after you enter a value in Quantity Issue. This value is calculated as the quantity of the component items held in inventory at the specified Site, Location, and Lot/Serial minus the Quantity Issue value. For example, when Issue Method is set to Allocated, and there are 10 units of this component item allocated at this site, location, and lot/serial, if you set to Quantity Issue to 8, the Quantity Available field displays 2.
  After you enter a Quantity Issue value and tab out of this field, the system automatically calculates the Quantity Available value and displays it.

- Quantity Issue
- UM
- Expire Date
- Inventory Status
- Grade
- Assay %
- Backflush Location
- Reserved Location
- Attribute Status

  The Attribute Status could be Conforming or Non-conforming.
  When Attribute Status of the component or substitute item is Non-

conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

When you click New above the grid, the Component/Substitute Item field is editable. You can directly enter an item code, or click the look-up to launch the **Item Substitutions** view and select a valid substitute item to add. For an existing record in this grid, only the Site, Location, Lot/Serial, Reference, and Quantity Issue fields are editable.

Further Operations

When the reporting action is successful, you can click Done to return to the **Production Operations Reporting** (or **Production Orders Reporting**) browse; or click Report Another to go back to the Main panel for another round of reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Inventory Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Site Calendar
- Work Center Calendar

For example, after issuing components, you can view the inventory transaction history records in the **Inventory Transactions** browse. You can also view related operation information such as queue status via the **Production Order Routings** drill-down link.

General Ledger Effects

When you issue or backflush components from inventory to production by taking the Report Component Issue action, the system issues quantities from inventory to a production order, and creates transactions when it issues components and costs are tracked through the following accounts: Material Actual Cost and Material Rate Variance.

The following tables list GL information about standard and average costing transactions. You can refer to them to decipher transaction types that display in reports and browses and to understand how and when various transaction types are created.

Standard Costing Transactions

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue
Material Rate Variance	tr_hist ISS-WO	RATE-VAR	Material Rate Variance Account (Production Order)	WIP Account (Production Order)	Component Issue

Average Costing Transactions

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue

Receive Order Action

When an order is completed on the production activity, the items are typically sent to the stockroom.

You can receive production orders in the following ways:

- Use the receipt function within the Report Operation Activity action when you want to record the production activities for every milestone operation separately and want to receive finished products into inventory.

  You can use the Report Operation Activity action to do the receipt if the reporting operation is the last operation on the production order routing. Once items have passed through all of the manufacturing operations, the finished units are received into stock. Note that you can also issue components when taking this action. For details, see Report Operation Activity Action on page 3594.
- Use the receipt function within the Report Operation Move action if you want to move a quantity for an operation and want to receive a quantity to finished material inventory.

You can use the Report Operation Move action to receive finished goods into inventory when the Move From Operation is the last operation in the production order routing. This action also allows you to transfer a quantity from the output queue of an operation to the input queue of the operation after this one, or to move a quantity to the first operation in the production order routing. For details, see Report Operation Move Action on page 3667.

- Take the Receive Order action if you want to process all operations in one single transaction when completed products are received.

  You can take the Receive Order action to do the receipt for a production order. This action processes every operation in the production order routing and receives the units into stock for the production order. This action also also allows you to issue components and report the default labor.

For receiving, the system first creates a production order receipt transaction (RCT-WO), followed by a production order consumption transaction (CONS-WO).

Note You cannot use the Receive Order action when the production order selected is WIP Lot Trace controlled.

Note You can receive production orders without routings only by taking the Receive Order action.

When taking the Receive Order action, you can receive completed products and issue the items used to make them at the same time. A receipt with backflush increases end-item inventory quantities at designated sites and locations and decreases component inventory. It also updates the production order to reflect quantities completed and scrapped, decreases quantities open for Material Planning, and adjusts work in process (WIP).

You can report the default labor and test results at receipt, and report individual orders as completed, using the transactions. Note that the Receive Order action does not allow you to enter labor hours. When performing the Receive Order action, the system automatically reports the default labor only for operations with Auto Labor set to Yes based on the standard run time and the processed quantity.

The Receive Order action supports multiple functions related to production activity transactions. Such functions help create transaction records for the reported setup time, labor hours, material scrapped, and the number of units completed for the specific order. These records are used to track the status of production order operations, monitor performance of work centers, and update the general ledger (GL) for manufacturing costs.

With the Receive Order action, you can:

- Record the quantity completed or quantity processed.

The system enables the Quantity Processed or Quantity Complete field in the Process & Complete subpanel based on the setting of Transaction Quantity Method.

- Issue (backflush) components to production orders.

  This transaction updates the quantity issued and consumes the component requirements.

  Note When Serialization is enabled, you can select Issue by Pack to issue inventory for serialized items and packs.

- Let the system automatically report the default labor for operations with Auto Labor of Yes based on the standard run time and the processed quantity.

  The Auto Labor field is defined as Yes or No for each operation in the routing. For a discrete production order, the system checks the order's routing; for a repetitive production order, the system checks the effective standard routing.

- Select Use Standard Setup to make the system automatically report setup time for a discrete production order when the order is processed for the first time.

- Scrap for a processed quantity for a production order.

  When the scrap is reported within this function, the system creates the SCRAP-O operation transaction. The scrapped quantity is recorded in the output queue of the last operation. The system also creates the CONS-WO inventory transaction if Quantity Open Method is set to Quantity Processed.

- View the consumed production orders in a grid.

- Close orders together with the receipt.

  During the receipt, you can select Close Order in the Order Consumption grid to set the production order status to Closed. Once closed, no further component issues or completions can be recorded against the order. The system captures the receipt and close date as well as the user ID of the person who received or closed the production order. Such information automatically appears in the release-related reports.

- Receive finished products into inventory and optionally modify the receipt data. The system consumes the open quantity of the order.

  Note When Serialization is enabled, you can select Receive by Pack to receive finished products into inventory as packaged goods.

When a production order is received:

- Inventory increases by the quantity of the receipt.
- The open order quantity decreases by the quantity of the receipt.

- Any scrap quantity is written off to the Scrap account and not placed in inventory if Post Scrap To GL is Yes in **Production Control**. For more scrap details, see Report Rejects & Scrap Action on page 3647.

There are two ways for you to launch the **Receive Order** window; you can then record completions against a production order:

- Select a production operation record in the **Production Operations Reporting** browse, and then choose Actions > *(Individual)* Receive Order.
- Select a production order record in the **Production Orders Reporting** browse, and then choose Actions > *(Individual)* Receive Order.

Note If you take the Receive Order action in **Production Operations Reporting**, the system defaults the Work Center and Machine in the Resource Selection subpanel from the operation you selected. If this action is launched from **Production Orders Reporting**, the system leaves Work Center and Machine blank, and you can manually specify the work center and machine.

There are three panels in the **Receive Order** window: Summary, Main, and Receive. The Receive panel consists of the following subpanels:

- Process & Complete
- Scrap
- Order Consumption
- Issue Components
- Inventory to Receive

Note The Issue Components subpanel becomes unavailable when Auto Backflush is selected in the Process & Complete subpanel.

For fields in the **Receive Order** window, the system first defaults values from the production operation or order you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, as well as other data necessary to locate a production order.

Note When you manually set the fields, you need to click Apply to make the search criteria take effect and let the system locate the order desired.

The **Receive Order** window also provides the drill-down link feature. By clicking on the link icon located on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production order you are working on, including Total Received, Item, Site, Production Line, Cumulative Order ID, BOM/Formula, and Routing. These fields are read-only and stay in view even when you scroll down the page.

Note The Total Received field displays the quantity to be received into inventory, in inventory unit of measure (UM).

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this transaction.

Production Line

Enter a code identifying the production line associated with this transaction.

Work Center

Enter a code identifying the work center associated with this transaction.

Note If you take the Receive Order action in **Production Operations Reporting**, the system defaults the Work Center and Machine in the Resource Selection subpanel from the operation you selected. If this action is launched from **Production Orders Reporting**, the system leaves Work Center and Machine blank.

Machine

Enter a code identifying the machine associated with this transaction.

Note If you take the Receive Order action in **Production Operations Reporting**, the system defaults the Work Center and Machine in the Resource Selection subpanel from the operation you selected. If this action is launched from **Production Orders Reporting**, the system leaves Work Center and Machine blank.

Order Selection

Effective Date

Enter a valid effective date for this transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field, along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure of the item on the order

When a new production order is located and applied, the system updates the field values in this window according to the new order.

Receive

The Receive panel consists of the following subpanels, enabling you to perform different production activities:

- Process & Complete: to report quantities processed or completed
- Scrap: to scrap for a processed quantity for the order
- Order Consumption: to calculate orders to be consumed for the processed quantity and to close the orders

- Issue Components: to issue components
- Inventory to Receive or Inventory to Receive Co/By-Products: to receive finished units



Employee

Enter a valid employee for this transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Use Standard Setup

Specify Yes to use the standard setup time that it takes to set up operations for the order, independent of the order quantity. When you set to this field to Yes, the system automatically reports setup time for operations when the operations are processed for the first time in the Receive Order transaction. When this field is set to No, the system does not report setup time in this transaction. In this case, you can take the Report Labor action to record time.

The system reports setup time for production orders in this transaction; it does not report setup time for repetitive orders even when this field is set to Yes.

Close Order

Select this check box to set a default value of Yes for the Close Order field in the Order Consumption grid.

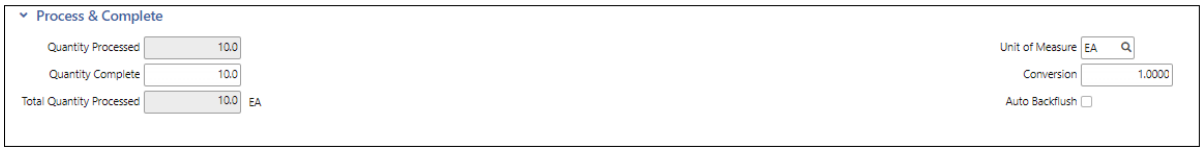
Once closed, no further component issues or completions can be recorded against the order. The system captures the receipt and close date as well as the user ID of the person who received or closed the production order. Such information automatically appears in the release-related reports.

Closing a production order does not clear the balance in WIP. This action is done by using **Production Order Accounting Close**.

Note The system defaults the setting of Close Order here to the Order Consumption grid after you click Calculate Consumption.

Process & Complete

The Process and Complete subpanel allows you to report quantities processed or completed.



This subpanel consists of the following fields:

Quantity Processed

Specify the quantity processed for the order. The default is 0 (zero).

When Transaction Quantity Method is set to Qty Processed, the system allows you to enter Qty Processed rather than Qty Complete in the Receive Order action as well as Report Operation Activity.

Note The Transaction Quantity Method value in **Work Centers** has a higher priority over the value set in **Production Lines**. If there is no production line defined on a production order and no Transaction Quantity Method defined on the work center, the system uses the Quantity Open Method set in **Production Control** as the transaction quantity method.

Quantity Complete

Specify the quantity completed for the order. The quantity is received into stock. The default is 0 (zero).

When Transaction Quantity Method is set to Qty Completed, the system allows you to enter Qty Complete rather than Qty Processed in the Receive Order action as well as Report Operation Activity.

Note The Transaction Quantity Method value in **Work Centers** has a higher priority over the value set in **Production Lines**. If there is no production line defined on a production order and no Transaction Quantity Method defined on the work center, the system uses the Quantity Open Method set in **Production Control** as the transaction quantity method.

Total Quantity Processed

This field is view-only. It depicts the sum of quantities you have processed against the current production order.

Note that Total Quantity Processed is displayed in inventory unit of measure (UM) while the other quantities are in the transaction UM, the one specified in the Unit of Measure field.

Unit of Measure

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Conversion

Enter the unit of measure (UM) conversion.

Auto Backflush

Select this field to make the system automatically handle component issue.

- When selected, the Issue Components subpanel is unavailable, and the system automatically calculates the issue list after you click Submit.

  Note When Auto Backflush is selected and you click Submit, if there is any invalid inventory on the issue list, the system displays an error message, asking you to manually check the inventory by clicking Calculate Issue List in the Issue Components subpanel.

- When cleared, the system displays the Issue Components subpanel, allowing you to manually calculate the issue list by clicking Calculate Issue List there. You can then click Details to launch the **Issue Components** details page for .

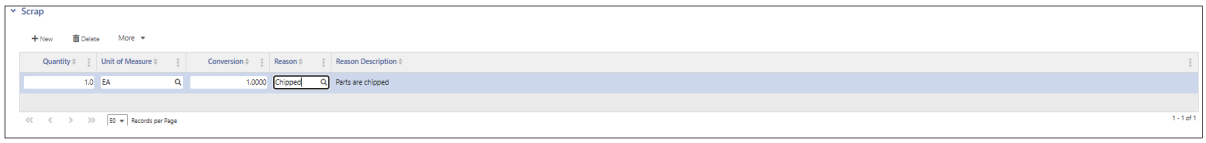
The Auto Backflush check box is cleared by default. If you click Report Another after a successful reporting transaction, the system defaults the Auto Backflush setting from the previous transaction.

Scrap

The Scrap grid allows you to report scrap quantities for the specified production order. You can record multiple scrap quantities for the order. Specify reason codes for the scrapped quantities.

Note You can also enter the number of items to scrap from the input, output, or reject queue for a specific operation by taking the Report Operation Activity or Report Rejects & Scrap action. In the **Report Operation Activity** window, the Scrap grid only supports for scrap from the current operation's output queue. To report scrap quantities from the input, output, or reject queue, take the Report Rejects & Scrap action instead. For details, refer to Report Rejects & Scrap Action on page 3647.

When items are scrapped using this function, the system creates the SCRAP-O operation transaction. The scrapped quantity is recorded in the output queue of the last operation. Any scrap quantity is written off to the Scrap account and not placed in inventory if Post Scrap To GL is Yes in **Production Control**. The system also creates the CONS-WO inventory transaction if Quantity Open Method is set to Quantity Processed.



Quantity

Enter a value in Quantity to specify the number of units to scrap for the order. The default is 0 (zero).

Unit of Measure

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Conversion

Enter the unit of measure (UM) conversion.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the scrapped quantity. You can also define a new one in **Reason Codes**.

For quantities scrapped, you can create multiple records with different reasons.

Reason codes identify and categorize activities by reason; for example, sales lost because of price, downtime and rejects caused by machine failure, or user account deactivated because user left company.

Note that the value of Reason Code Criticality in **Production Control** determines the system response when an invalid reason code is entered in transactions.

- When Reason Code Criticality is set to Warning

  The system displays a warning message and pauses; the system accepts the value when you continue.

- When Reason Code Criticality is set to Error

  The system displays an error message and returns to the Reason field.

Reason Description

This field is read-only, and displays the short description of the reason code.

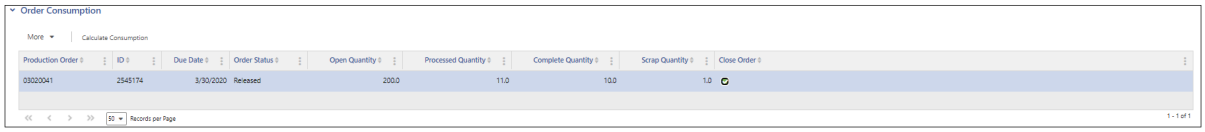
Order Consumption

The Order Consumption grid lists the schedule against which the activity is consumed.

After you click Calculate Consumption, if the current processed quantity consumes any orders, the system displays information about the consumed orders in this grid.

When the value of Quantity Processed is changed in the Process & Complete subpanel, the system automatically removes all existing records from the Order Consumption grid. That is because the change to the preceding field may make the current data in this grid out-of-date. Therefore, you need to click Calculate Consumption again to make the grid display new consumption records.

Note When you change the Quantity Complete value or update the scrap quantity, the system automatically updates the Quantity Processed value.



The fields displayed in this grid vary according to the Processed Quantity value:

- When the processed quantity is equal to or larger than 0 (zero), this grid displays the following fields:
  - Production Order
  - ID
  - Due Date
  - Order Status
  - Open Quantity
  - Processed Quantity
  - Complete Quantity
  - Scrap Quantity
  - Close Order
- When the processed quantity is smaller than 0 (zero), this grid displays the following fields:
  - Production Order
  - ID
  - Due Date
  - Order Status
  - Quantity Accepted
  - Quantity Scrapped

For consumed orders, the Order Consumption grid defaults the Close Order setting from the heading frame of the Receive panel. You can manually change the Close Order setting here. Make sure that orders are not needed anymore before you select the Close Order field.

You can close the order even when the processed quantity is 0 (zero). For a discrete or scheduled order, you can enter the specific order information in the Order Selection subpanel and click Calculate Consumption. If there is no processed quantity, the system displays the specified order in the grid; otherwise, the system follows the current consumption logic in use.

If you enter information about a discrete production order in the Order Selection subpanel, the system always locates the order after you click Apply, irrespective of whether it has a processed quantity in this transaction.

When Close Order is selected, the status of the order is changed to Closed, with all operations associated with the order closed. The system automatically removes component requirements, allocations, and shortage allocations, as it expects that you will not record any additional activity (material issue or labor transaction) against the order or operations.

When closing an order, the system performs the following steps:

1. Remove component requirements.
2. Remove scheduled receipts of the order.
3. Convert the picked allocation for components into the picklist master record if any.
4. Remove component allocations and shortage allocations.
5. Remove all allocations that are not picked yet when the order is on an order picklist. When there is no allocation on the picklist anymore, the system removes the picklist.
6. Remove all allocations that are not picked yet when the order is on a bulk picklist and it is the last one on the picklist as well. When there is no allocation on the picklist anymore, the system removes the picklist.

Note The system defaults the setting of Close Order from the heading frame of the Receive panel to the Order Consumption grid after you click Calculate Consumption. For a discrete order, since the system can process this order only, it uses the default setting of Close Order regardless of whether you click Calculate Consumption; however, since multiple scheduled orders can be processed by the system, you have to verify the setting before submission. If you do not click Calculate Consumption, the system treats these orders as not closed regardless of the default setting.

Calculation of the component issue list relies on the data of consumed orders. Therefore, when the Order Consumption grid is left blank, if you click Calculate Component Issue List in the Issue Components subpanel,

the system automatically triggers the Order Consumption calculation logic. Then you can see the system-calculated orders, which are to be consumed, in this grid.

Issue Components

The Issue Components subpanel is available only when Auto Backflush is not selected on the Process & Complete subpanel. You can issue components using this subpanel.

Note When Auto Backflush is selected, the Issue Components subpanel is hidden. In this way, the system issues components according to the system-calculated issue list, and you cannot modify this list. When Serialization is enabled and you select Auto Backflush, the system issues loose non-serialized components automatically, but prompts you to manually scan serial IDs if there are serialized components.

The heading frame of this subpanel consists of the following fields:

Issue Method

Two issue methods are available:

- Backflush (default)

  When you set Issue Method to Backflush, the system follows the current backflush calculation method in use. The system only issues inventory from the backflush locations.

- Allocated

  When you set Issue Method to Allocated, the system considers only the allocated quantity regardless of its locations, and issues only the allocated inventory according to the picking logic. The sequence of picking allocated inventory considers both the consignment setting and the picking logic.

Note This field is disabled when Issue by Pack is selected.

Issue by Pack

This field displays only when Serialization is enabled.

Note To activate Serialization functions, select Enable Serialization in the Serialization panel of **Inventory Control**. You can also define control settings for Serialization in this panel.

Select this field if you want to perform component issue with Serialization in this transaction. The system then displays Serialization-related fields in the grid below for you to issue inventory from unit packs or assembly packs, or to issue lower-level packs from master packs. For more details, refer to the section **Component Issue with Serialization**.

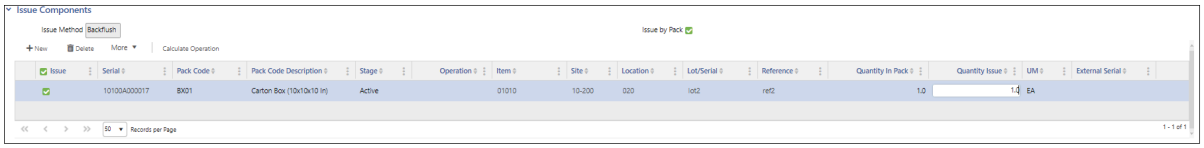
Clear this field if you want the system to perform component issue without Serialization. You can click Calculate Issue List above the grid. The system automatically calculates and displays a list of components

to issue in the grid below. You can issue components according to the list, or modify the list and issue inventory as you want. For more details, refer to the section **Component Issue without Serialization**.

Component Issue with Serialization

When Serialization is enabled, the system displays the Issue by Pack field in the heading frame of the Issue Components subpanel. You can select Issue by Pack and then enter data associated with the Serialization solution to issue components by pack. This helps you track and trace the issue of serialized items and packs that are associated with a production order.

The Issue Components grid displays the following fields:



- Issue

  Select the Issue checkbox for the pack to be issued. You can issue inventory from a unit or assembly pack, or issue a lower-level pack from a master pack.
  When you enter the serial of an assembly pack, which contains lower-level packs, in the Serial field, the assembly pack information is displayed in the parent row and the lower-level packs are displayed in the child rows. You can select the Issue checkbox in the parent row to issue the whole assembly pack. You can also manually select or clear the Issue checkboxes in the child rows to issue some of these lower-level packs.
  When you enter the serial of a unit pack, which contains non-serialized items, in the Serial field, the system displays the pack information in a row. You can edit the Quantity Issue field to issue all or part of the inventory in the pack.
  When you enter the serial of a unit pack, which contains serialized items, in the Serial field, the pack information is displayed in the parent row and the serialized item information is displayed in the child rows. You can select the Issue checkbox in the parent row to issue the whole pack. If you want to issue a partial quantity of the pack, you can manually select or clear the check boxes for the serialized items in the child rows.

  Note In the parent row, you must click the arrow ahead of Issue to expand the serial hierarchy and view the lower levels.

- Serial

  Enter the serial of the pack to be issued. You can enter an existing serial. You can also leave this field blank and enter a non-serialized item component in the Item field to issue its loose inventory.

After you enter the serial of a pack and tab out of the Serial field, the system automatically displays a row in this grid, providing information about this pack.
You can enter unit packs, assembly packs, and loose serialized items in Active stage; or lower-level child packs or serialized items that are aggregated on an active master pack.
The pack or item serial ID that you enter can be Active or Aggregated on an active master pack. If the entered serial ID is aggregated on an active master pack, the system notifies you that it will be removed from the master pack. When issuing inventory from a pack that is Aggregated, the system first removes the pack from the master pack.

- Pack Code

  The pack code for the serial you entered.

- Pack Code Description

  The description of the pack code.

- Stage

  The serial stage for the entered serial.
  Serial stages are codes used to track the current situation of a serial number before, during, and after inventory processing. These codes include system- and user-defined codes for active serial numbers related to stock in inventory. The system stores serial ranges and other serial data independently from lot detail data and inventory transaction history.

- Operation

  The operation where the components are in use. The Operation field is left blank by default.
  After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation above the grid. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid. When you submit the transaction, the system issues the serial IDs against the specified operation and its preceding non-milestone operations.
  If the component is defined on multiple operations in the production order bill, the system issues to the operations in ascending order.
  When a pack holds components that are not defined in the production order bill, the system checks the Modify Component Issue setting in the Compliance panel of **Inventory Control**, to see whether it is allowed to issue any component to a production order. When allowed, the system treats the transaction as an unplanned issue. This means that the system issues the components to the production order on a blank operation, but does not decrease component requirements.
  If there is a component that has been defined on a blank operation and on some other operations in the production order bill, the system first issues the components to the blank operation, and then issues

the extra quantity to the other operations. If all the requirements are satisfied, the over-issued quantity is added to the last operation that includes this component.

- Item

  The item in the pack that is to be issued.

- Site

  The site where the pack is stored.

- Location

  The location where the pack is stored.

- Lot/Serial

  The lot/serial number of the items held in the pack.

- Reference

  Reference for the items.

- Quantity In Pack

  The quantity that is currently in the pack.

- Quantity Issue

  Enter the quantity to be issued. This field defaults to the Quantity in Pack value.
  When the serial ID is of a unit pack that only contains non-serialized items of a single combination of item, lot, and reference, the Quantity Issue field is editable. You can issue all or part of the inventory in the pack.

- UM

  The item's unit of measure.

- External Serial

  The external serial provided by the supplier for the serial selected. External Serial and Origin Code serve as an extension for the serial record, which allows cross-linking to a single internal serial. You can retrieve the external serial from existing browses and reports so that you can efficiently track and trace packaged inventory.

To issue components by pack, identify a production order in the Main panel, set required fields as needed, and select the Issue By Pack field in the Issue Components subpanel. Then you can set the Serialization data in the Issue Components grid.

After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid.

Note If the Order Consumption grid is blank, when you start to scan serial IDs, the system automatically triggers and executes the Calculate Consumption logic first.

With this function, you can:

- Issue assembly packs, either full packs or some of its lower-level packs.
- Issue unit packs, either full packs or part of its inventory.
- Issue serialized items that are not in packs.
- Issue non-serialized items that are not in packs.

Once you confirm that packs are correct, the system issues the components as follows:

- For all packs, when the system issues all content, it changes the stage to Decommissioned.
- For all serialized items, it changes the stage to Consumed, but maintains the item, lot/serial, reference, and production order information.

For details about how to use this function to issue components by pack, refer to Using the Issue by Pack Function on page 3749.

Component Issue without Serialization

Do not select the Issue by Pack field when you want to perform component issue without Serialization.

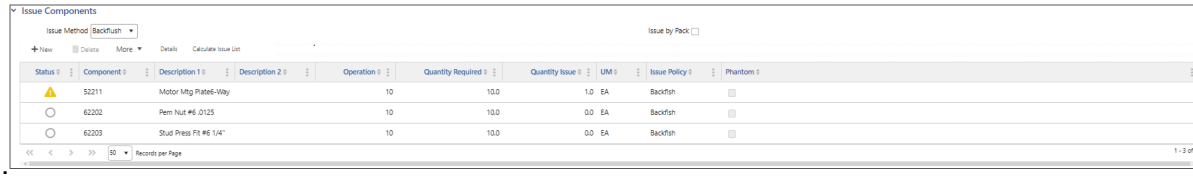
After you set Issue Method and click Calculate Issue List, the system automatically calculates and displays a list of components to issue in the grid below. You can then directly issue components according to the list calculated by the system. You can also modify the calculated issue list and issue the inventory as you want.

When the Order Consumption subpanel is updated, the issue list in the Issue Components grid automatically refreshes. If there is any new scheduled order existing in the updated Order Consumption subpanel, the issue list with Quantity Required is updated according to the new scheduled order.

When the Order Consumption subpanel is cleared out, the system removes all records from the Issue Components grid and disables all buttons in this grid except for Calculate Issue List.

You cannot delete any component whose Issue Policy is Backflush from the default issue list; however, for those with non-Backflush Issue Policy, you can remove them from the list. You can also manually add more

components to the list. If you want to issue components, which are not in the production order bill, set Modify Component Issue to Yes in **Inventory Control**.



The Issue Components grid displays the following fields:

- Status

  Inventory status icons, which are displayed in the Status column, can be any of the following:

  - A green circle with a check mark inside ( ): displays when the Quantity Issue value matches the Quantity Required value.
  - A yellow triangle with an exclamation mark inside ( ): displays when the Quantity Issue value does not match the Quantity Required value.

    Note that when the component is associated with attributes and there is any non-conforming attribute, this icon displays even though the Quantity Issue value matches the Quantity Required value. A tooltip stating "Inventory attributes values not conforming with order" also pops up when you hover the mouse point over the icon. In this case, you can select the component record and click Details to launch the **Issue Components** details page for maintaining the item attribute status.

    Note On AUX, you can create the following item profiles that are specific to components and raw materials required for production:

    - **BOM Component Profiles**: Applies to a specific product structure and component or a formula and ingredient for production.
    - **Production Order Component Profiles**: Applies to a specific production order component in production.

    For details about how to create such profiles, see the online help for the **BOM Component Profiles** and **Production Order Component Profiles** views.

  - An empty gray circle ( ): displays when the Quantity Issue value is 0 (zero). This is the initial status before calculation.
  - A red circle with a cross inside ( ): displays when the calculated inventory cannot be issued.

- Component

  Specify the component to issue to the production order.

- Description 1

  This field is read-only and displays the primary description of the specified component.

- Description 2

  This field is read-only and displays the extra description of the specified component.

- Operation

  Specify an operation on the production order routing. The system defaults the operation that is defined for the specified component in the production order BOM. You can manually change it to another operation on the routing.

- Quantity Required

  Displays the quantity of the component item required.

- Quantity Issue

  Displays the quantity of the component item to issue to the production order.

- UM

  Displays the unit of measure (UM) for stocking and planning this item. The default is the inventory UM.

- Issue Policy

  Displays the issue policy of the component, which could be Backflush, Direct, or No Issue.

  - Backflush: Component inventory for the item is consumed by production by using the Report Operation Activity or Receive Order action.
  - Direct: Issue Direct to Order. Component items are issued directly to the production order (as opposed to backflushed).
  - No Issue: Component items are floorstock and are not consumed by production and not processed by inventory transactions.

- Phantom

  Indicates whether this component is a phantom item. The Phantom checkbox is selected when the component is a phantom item.

The Component and Operation fields are editable only when you are adding new components to the grid. All the other fields are read-only.

Above the grid, you can set the Issue Method field, or click Details or Calculate Issue List.

Issue Method

Two issue methods are available. You can choose one of the following:

- Backflush (default)

  When you set Issue Method to Backflush, the system follows the current backflush calculation method in use. The system only issues inventory from the backflush locations. For details about the backflush logic, see .

- Allocated

  When you set Issue Method to Allocated, the system considers only the allocated quantity regardless of its locations, and issues only the allocated inventory according to the picking logic. The sequence of picking allocated inventory considers both the consignment setting and the picking logic.

  Note Issue Method of Allocated does not apply to negative quantity processing scenarios.

  Consignment Integration with Allocations
  If you include supplier-consigned inventory when reporting production operation activities, the system creates the RCT-PO and CN-ISS supplier-consignment transactions.

  Note The **Inventory Control** view enables you to enter control settings for Inventory and Supplier Consignment. In **Inventory Control**, you can set the picking logic by choosing **Inventory** > **Picking Logic**. You can also go to the Supplier Consignment panel and set the Use Consignment First field to determine which inventory is processed first when Supplier Consignment is enabled.

  When the system searches for locations, once a location is identified, the system applies the following logic to allocate inventory:

  - When Use Consigned First is selected, the system allocates consigned inventory first.
  - When Use Consigned First is not selected, the system allocates non-consigned inventory first.
  - When Use Consigned First is Default, the system applies the picking logic.

For example, assume that there are 30 units of a component item that are held in inventory at the specified work center backflush location, but only 10 units of them are allocated. In addition, another 10 units of the component item are held in inventory at another location and all are allocated.

When a quantity of 20 for this component item is required to issue:

- If you set Issue Method to Backflush: the system only issues inventory from the backflush location; therefore it issues all of the 20 units from the backflush location.

- If you set Issue Method to Allocated: the system considers only the allocated inventory regardless of its location. In this example, the system first issues the 10 units of allocated inventory from the backflush location, and then issues another 10 units from the other location.

Details

After selecting a component in the Issue Components grid, you can click Details to launch the **Issue Components** details page. You can then modify the inventory details for the component to issue. You can also add substitute items of the component, enter the quantity to issue, and specify the site, location, lot/serial, and reference.

Calculate Issue List

Click Calculate Issue List to make the system calculate the component issue list.

After you set Issue Method and click Calculate Issue List, the system automatically calculates and displays a list of components to issue in the grid below. You can then directly issue components according to the list calculated by the system. You can also modify the system-calculated list by clicking New, Delete, or Details above the grid, to issue the inventory as you want.

If any component's Quantity Issue is not 0 (zero), the system displays a confirmation message when you click Calculate Issue List, telling you the issue list is to be recalculated and prompting you to continue.

If any component's Quantity Issue is not 0 (zero) or if there is any manually added component in the current issue list, when you change the processed quantity, the system displays a warning message, telling you the component issue list is to be refreshed.

Note The system does not display this warning message when Auto Backflush is selected.

When you click Calculate Issue List, the consumed orders in the Order Consumption subpanel, which are at Firm Planned status, are changed to Exploded status immediately before you submit. That is because the system requires a fixed BOM or routing from the production order when calculating the component issue list.

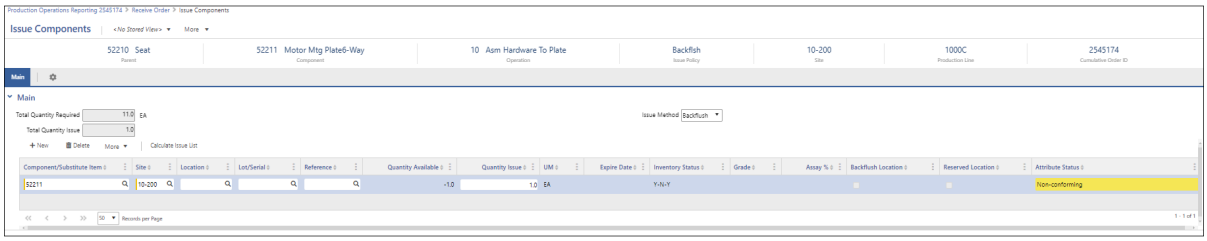
After you set Issue Method and click Calculate Issue List, the system calculates the Quantity Issue values, and displays the inventory status in the grid below.

The Issue Components subpanel does not allow you to directly add the substitute item of a component to the issue list. To add such a substitute item, click Details to open the **Issue Components** details page and add it there.

Issue Components Details Page

The **Issue Components** details page displays the Summary and Main panels as well as a grid.

The Main panel displays the Total Quantity Required, Total Quantity Issue, and Issue Method fields. The Issue Method value defaults from the one specified for the component in the main Issue Components subpanel, but it is editable. Therefore, you can apply an issue method specific to an Item/Operation combination.



You can click Calculate Issue List to let the system automatically calculate a default inventory issue list for the current Item/Operation combination. The grid lists the following fields:

- Component/Substitute Item

  Note When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

- Site
- Location
- Lot/Serial
- Reference
- Quantity Available

  This field displays the quantity of component items left available at the specified Site, Location, and Lot/Serial, after you enter a value in Quantity Issue. This value is calculated as the quantity of the component items held in inventory at the specified Site, Location, and Lot/Serial minus the Quantity Issue value. For example, when Issue Method is set to Allocated, and there are 10 units of this component item allocated at this site, location, and lot/serial, if you set to Quantity Issue to 8, the Quantity Available field displays 2.
  After you enter a Quantity Issue value and tab out of this field, the system automatically calculates the Quantity Available value and displays it.

- Quantity Issue
- UM
- Expire Date

- Inventory Status
- Grade
- Assay %
- Backflush Location
- Reserved Location
- Attribute Status

  The Attribute Status could be Conforming or Non-conforming. When Attribute Status of the component or substitute item is Non-conforming, the system highlights the Component/Substitute Item cell in yellow, as well as its Attribute Status cell.

When you click New above the grid, the Component/Substitute Item field is editable. You can directly enter an item code, or click the look-up to launch the **Item Substitutions** view and select a valid substitute item to add. For an existing record in this grid, only the fields Site, Location, Lot/Serial, Reference, and Quantity Issue are editable.

If there is insufficient inventory to issue when you use Issue Method of Backflush to calculate the issue list, the system defaults all remaining required quantity to the site/location combination with a blank Lot/Serial and a blank Reference.

When the item is lot-controlled or over-issue is not allowed, the system also highlights the record in red in the Component/Substitute Item cell, making it easier to identify.

For more details about component issue list calculation, see .

When you click Calculate Issue List on the **Issue Components** details page, if the component is a phantom or is a phantom's component, the system applies the phantom use-up logic. The system first issues the phantom's allocated inventory, and then explodes the remaining required quantity, if any, to the phantom's components. As both of them should be calculated together, in this case, the system displays an error message, prompting you to use the Calculate Issue List button in the main Issue Components subpanel instead (that is, the one displayed by choosing **Receive Order** > **Receive** > **Issue Components** in **Production Operations Reporting** or **Production Orders Reporting**).

Inventory to Receive

The Inventory to Receive subpanel allows you to receive finished goods into inventory without packaging or receive as packaged goods. To receive finished goods by pack, you can select the Receive by Pack field and set related Serialization fields.

The Inventory to Receive subpanel also allows you to review and modify the regulatory attributes for items held in inventory at a particular site and location. You can set regulatory attributes like Expire Date, Inventory

Status, Grade, and Assay% in the heading frame or grid. In addition, if there are item attributes related to this item, you can also click Attributes to launch the **Attributes** details page for item attribute .

Note You do not need to have the Regulatory Attributes module to assign inventory statuses during receipt. However, this feature is especially useful in regulated environments. You can refer to the online help for **Inventory Detail** for more details about the Regulatory Attributes module. For detailed information about item attributes, see the online help for item attributes-related views such as **Item Lots** and **Item Attribute Profiles**.

The following fields are displayed in the heading frame of the Receive subpanel:

Total Quantity to Receive

Displays the quantity completed at this operation, which is ready to be received into inventory, in inventory UM.

Total Quantity Received

Displays the sum of quantities you have entered in the Receive grid, in inventory UM.

Lot Control

Displays the Lot Control value of the item, which could be blank, Lot, or Single Lot.

The Lot Control value for the item determines if a lot or serial number is required. The Lot Control value, which is set in **Items**, is used as the default for all sites. You can set up site-specific values in the Site panel of **Items**.

Serial Control

Displays the Serial Control value of the item in **Items**.

The Serial Control value determines whether this item must be serialized, which could be either of the following:

- N (Never): This item is not serial-controlled, but the pack containing this item can have a serial.
- M (Mandatory): Each item in the inventory requires a serial.

Receive by Pack

This field displays only when Serialization is enabled.

Note To activate Serialization functions, select the Enable Serialization checkbox in the Serialization panel of **Inventory**

Control. You can also define control settings for Serialization in this panel.

Clear this field if you want the system to receive finished products into inventory without packaging. For more details, refer to the section **Receiving Finished Production into Inventory Without Packaging**.

Select this field if you want to receive finished products into inventory as packaged goods in this transaction. The system then displays Serialization-related fields for you to receive serialized and non-serialized inventory into unit and assembly packs. Note that the system displays different Serialization fields, depending on the settings of the Auto Generate Packs and Receive Assembly Pack fields. For more details, refer to the section **Receiving Finished Production into Inventory as Packaged Goods**.

Expire Date

Specify the expiration date associated with this specific inventory quantity. The default is from the production order.

Inventory Status

Enter the inventory status code associated with this inventory quantity. The default is from the production order.

Inventory status codes identify the status of inventory at a specific site and location with a specific lot/serial number and lot reference. They determine whether specific inventory balances on hand are:

- Available for allocation to sales orders or production orders
- Considered available by MRP
- Allowed to become negative

Inventory status codes can also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Grade

Enter the grade associated with this inventory quantity. The default is from the production order.

This value usually identifies inventory quality or physical properties. Graded products include raw materials, intermediates, and finished goods.

Assay % and grade can be important when allocating items. Specific formulations can require a minimum assay percentage or grade. Review these values prior to allocating or picking ingredients.

Default values for assay % and grade are set in **Production Orders**. If these are blank or if the Regulatory Attributes module is not active,

values come from existing inventory detail records. If no records exist, assay % defaults to 0.00% and grade defaults to blank.

Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Assay %

Enter the assay percentage associated with this inventory quantity. The default is from the production order.

Assay % usually identifies the percent solution.

When allocating items, assay % and grade can be important. Specific formulations can require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for assay % and grade are set in **Production Orders**. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, assay % is set to 0.00% and grade is set to blank.

Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

Use as Default

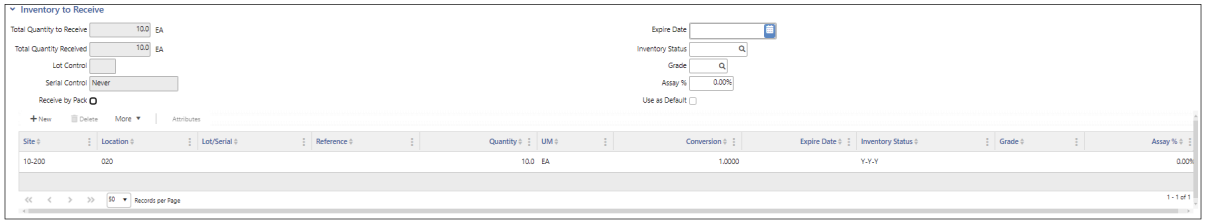
You can select this field to set the preceding regulatory attribute values, which you have entered in the heading frame, as the default attributes for all receipts on this order. For repetitive transactions, these values are stored and applied at the last operation.

When you select Use as Default, the system assigns the entered attribute values as defaults for the current and future receipts for the order. The Receipt Status, Expire Date, Grade, and Assay% fields for this order are updated accordingly in the Regulatory Attributes panel of **Production Orders** once you submit the receipt transaction.

If inventory with different attributes exists at the receipt site and location with the same lot/serial and lot reference number, an error displays and you cannot proceed. To correct this error, change the site or location, or specify a different lot or lot reference number.

Receiving Finished Production into Inventory Without Packaging

If Serialization is disabled, or if you set Receive by Pack to No when Serialization is enabled, the Receive grid consists of the following fields:



- Site

  Enter a valid site where items are stored. You cannot leave this field blank.

- Location

  Enter a valid location where items are stored.

- Lot/Serial

  Enter the lot/serial number of the items held.

  Note Lot/Serial may be affected by regulatory control.

- Reference

  Enter a reference for the item.
  Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.
  The system organizes inventory detail data by item number, site, location, lot or serial number, and reference number. For each unique combination of these values, it tracks the quantity on hand (QOH) and inventory attributes such as assay percentage, grade, expiration date, and status code.

- Quantity

  Enter a quantity to receive.

- UM

  Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

- Conversion

  Enter a UM conversion.

- Expire Date

  Enter the expiration date associated with this specific inventory quantity.
  The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

  - For the item and site in the Site Inventory Exceptions grid on the Site panel of **Items**.
  - For the item in the Inventory panel of **Items**.

  Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity

to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.
You can impose additional restrictions by setting Issue Days in **Inventory Control**. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next 5 days.
Generally, you can use **Inventory Detail** to review and modify the regulatory attributes for items (Expire Date, Grade, Assay %, and Inventory Status) held in inventory at a particular site and location.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Inventory Status

  Enter the inventory status code to associate with this inventory quantity.
  You can set up inventory status codes in **Inventory Status**.
  Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

  - Inventory Status setting in **Inventory Detail**.
  - Receipt Status setting in **Production Orders** when it is active.
  - WO Receipt Status setting in the Site Inventory Exceptions grid on the Site panel of **Items** when it is active.
  - WO Receipt Status setting in the Inventory subpanel of the Main panel in **Items** when it is active.
  - Default inventory status for the receiving location or site, set up in **Locations** or **Sites**.

  You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers. Generally, you can modify inventory attributes such as expire date, grade, assay %, and inventory status in **Inventory Detail**.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Grade

  Enter the grade associated with this inventory quantity.

  Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

- Assay %

  Enter the assay percentage associated with this inventory quantity.

Note This field is editable if the item's site/location/lot/ref combination does not exist. If the site/location/lot/serial/ref combination already exists, this field is read-only.

Use this subpanel to record the inventory that is not packaged. Enter specific data about the receipt, including site, location, total units, and more. When receiving finished goods into inventory, the system also updates the quantity completed and reduces the quantity open on the applicable scheduled production orders or split production orders.

You can click New to add new records, or click Delete to remove existing records. You can also double-click an existing record to modify its fields. By creating multiple records in this grid, you can receive inventory by specifying data like Site, Location, and Lot/Serial, to receive multiple lot/serials for an item.

You can set regulatory attributes, like Inventory Status, Expire Date, Grade, and Assay %, in this subpanel. Besides, you can click Attributes to launch the **Attributes** details page for maintaining item attributes when there are item attributes associated with the item. Refer to for more information.

When lot control level is 1 or 2 in the Compliance panel of **Inventory Control**, you can receive only a single lot per transaction when the following are true:

- For discrete orders: When lot controlled and Single Lot is selected on the production order
- For discrete scheduled orders: When lot controlled or the Split CUM order has Single Lot selected
- For repetitive schedules: When the item is lot controlled and Single Lot per Repetitive Receipt is selected in the Compliance panel of **Inventory Control**

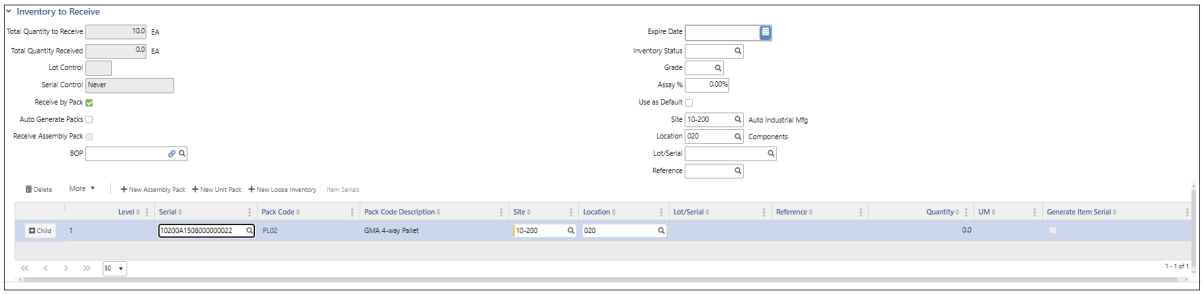
Note When these conditions exist, you can still assign different locations for the receipt. Also, when you implement auto-lot numbering, you can receive only a single lot number per receipt regardless of the single-lot setting and lot control level set in the Compliance panel of **Inventory Control**.

Note that if the item's Lot Control is Single Lot:

- The default Quantity to Receive is 0 (zero) as the system cannot calculate the serial number with a quantity of 1 for each record without a serial rule (Lot/Serial).
- You could set the Lot/Serial and Quantity fields in this grid. When you tab out of the record, the system prompts you to create a list of serial numbers. If you answer Yes, the system automatically creates the Lot/Serial number based on the Lot/Serial number you entered into the Inventory to Receive grid.

Receiving Finished Production into Inventory as Packaged Goods

When Serialization is enabled and you set Receive by Pack to Yes, the system displays the following Serialization fields in the heading frame of the Receive subpanel:



- Site

  Enter a valid site where items are stored. You cannot leave this field blank.

- Location

  Enter a valid location where items are stored or leave this field blank.

- Lot/Serial

  Enter the lot/serial number of the item held in the pack or leave this field blank.
  If you are receiving packs that contain the same lot/serial, enter the lot/serial in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added. If you are receiving a mixed pack with different lot/serials, leave this field blank and enter the lot/serial in the grid.

- Reference

  Enter a reference for the item or leave this field blank.
  If you are receiving packs that contain the same reference information, enter the reference in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added. If you are receiving a mixed pack with different reference information, leave this field blank and enter the reference in the grid.

- Auto Generate Packs

  Select this option to populate the Receive grid with multiple unit packs at once based on the BOP Code entered. You can also populate the Receive grid with multiple assembly packs by selecting both Auto Generate Packs and Receive Assembly Pack.

  - **Receiving Multiple Unit Packs**

    When Auto Generate Packs is selected, the Number of Full Packs, Standard Pack Quantity, and Quantity in Partial Pack fields are

displayed in the heading frame of the Receive subpanel. These fields allow you to easily populate the Receive grid with multiple unit packs. After entering the pack quantities, click Apply to populate the grid with the appropriate number of unit packs. Each time you click Apply, the Receive grid is updated to reflect the quantities entered in the Number of Full Packs, Standard Pack Quantity, and Quantity in Partial Pack fields.

Note If there are packs available in the grid, when you click Apply, the system prompts you to replace or append the existing content in the grid. Choose Replace or Append as needed.

- **Receiving Multiple Assembly Packs**

  When Auto Generate Packs and Receive Assembly Pack are both selected, the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields are visible in the heading frame of the Receive subpanel. These fields allow you to easily populate the Receive grid with multiple assembly packs. After entering the pack quantities, click Apply to populate the grid with the specified number of assembly packs. Each time you click Apply, the Receive grid is updated to reflect the quantities entered in the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields. Do not select Auto Generate Packs if you are scanning or generating the pack serials manually.

- Receive Assembly Pack

  Select this option if you are receiving a multi-level assembly pack. When this field is selected, the fields in the Receive grid allow you to enter the master pack information in the parent row and the lower-level pack information in the child rows.
  The Receive Assembly Pack field is disabled and cleared by default. It is enabled only when the Auto Generate Packs field is selected.
  If you are receiving multiple assembly packs, select both Receive Assembly Pack and Auto Generate Packs. When these fields are both selected, the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields are displayed above the Receive grid. These fields allow you to easily populate the Receive grid with multiple assembly packs. After entering the pack quantities, select Apply to populate the grid with the specified number of assembly packs. Each time you select Apply, the Receive grid is updated to reflect the quantities entered in the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields.

- BOP

  Enter the bill of packaging code or accept the default based on the inventory information entered in the heading frame of the Receive subpanel.

In the Receive grid, the Pack Code defaults based on the BOP Code entered.

Note If the Item/Site combination (or the item with a blank site) record exists in Dual Units of Measure:

- The BOP must be defined as a one level structure in the Packaging Structures.
- The BOP must have the Single Item and the Single Lot checkbox selected in Pack Codes.
- The Pack Code UM must match Secondary Unit of Measure.
- The BOP Quantity Per in Packaging Structures has to be equal to the Target Quantity or within the Tolerance limit set in Dual Units of Measure.

- Number of Full Packs

  Enter the number of full packs to receive. This field is only visible when Auto Generate Packs is selected.
  When you click Apply, the system adds the number of packs entered in this field to the Receive grid. Each pack that is added to the Receive grid contains the number of items entered in the Standard Pack Quantity field.

- Standard Pack Quantity

  Enter the number of items in a standard pack. This field is only visible when Auto Generate Packs is selected.

- Quantity in Partial Pack

  If you are receiving a pack that is partially full, enter the number of items in that pack by using this field. This field is only visible when Auto Generate Packs is selected.

- Number of Assembly Packs

  Enter the number of assembly packs to receive. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.
  When you click Apply, the system adds the number of assembly packs entered in this field to the Receive grid. Each assembly pack that is added to the Receive grid contains the number of child packs entered in the Standard Assembly Pack Quantity field.

- Standard Assembly Pack Quantity

  Enter the number of child packs that each assembly pack contains. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.
  When you click Apply, the system adds the number of child packs entered in this field to each assembly pack in the Receive grid. Each child pack that is added to the Receive grid contains the number of items entered in the Standard Child Pack Quantity field.

- Standard Child Pack Quantity

  Enter the number of items in the child pack. This field is only visible when Auto Generate Packs and Receive Assembly Pack are selected.

In the Receive grid, enter the information for the packs or items being received.

You can click +New Assembly, +New Unit, or +New Loose Inventory above the Receive grid to manually add more assembly packs, unit packs, or loose item inventory. You can also select a record in the grid, clear its Generate Item serial checkbox, and then click Item Serials to manually specify a serial ID for a serialized item. To add a child row, you can select the parent row and click +Child.

- +New Assembly

  Enables you to add an assembly pack.

- +New Unit

  Enables you to add a unit pack.

- +New Loose Inventory

  Enables you to add loose inventory.

- Item Serials

  Enables you to enter item unit serials manually. This button is only enabled when the item to receive is a serialized item unit (that is, the item's Serial Control field is set to Mandatory in **Items**) and Generate Item Serial is not selected in the Receive grid. When Generate Item Serial is selected, this button is disabled.

When Serialization is enabled and you select Receive by Pack, the Receive grid consists of the following fields:

- Level

  Displays the level of the pack in the serial hierarchy. Packs in the serial hierarchy are assigned Level values of 1, 2, 3, and so on, from top to bottom. For example, a pack record with Level of 1 indicates the serial of the master pack being received. If you select a master pack and click +Child, the system automatically adds a row under this pack row, and sets Level to 2 for the child row.

- Serial

  Enter the serial of the pack being received. Enter an existing serial or leave the field blank so that the system can generate the serial upon submission. When you manually enter a serial ID, the stage of the serial could be Active, New, Decommissioned, or Pending. You can also enter a serial ID that does not exist in the system.

- Pack Code

Enter the pack code for the pack being received. The Pack Code defaults based on the BOP Code entered.

- Site

  Enter a valid site where items are stored. You cannot leave this field blank. This defaults from the Site field in the heading frame of the Receive subpanel.

- Location

  Enter a valid location where items are stored or leave this field blank. This defaults from the Location field in the heading frame of the Receive subpanel.

- Lot/Serial

  Enter the lot/serial number of the item held in the pack or leave this field blank.
  If you are receiving packs that contain the same lot/serial, enter the lot/serial in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added.
  If you are receiving a mixed pack with different lot/serials, leave the Lot/Serial field in the heading frame blank and enter the lot/serial in the grid.

- Reference

  Enter a reference for the item.
  If you are receiving packs that contain the same reference information, enter the reference in the heading frame of the Receive subpanel. When item information is entered in the heading frame, it defaults into the grid when rows are added.
  If you are receiving a mixed pack with different reference information, leave the Reference field in the heading frame blank and enter the reference in the grid.

- Quantity

  Enter the quantity to be received.

- UM

  Displays the item's unit of measure.

- Generate Item Serial

  When selected, the system automatically generates serials for each inventory unit. The system only generates item unit serials if the item is serial-controlled (that is, the item's Serial Control field is set to Mandatory in **Items**).
  For a serial-controlled item, this option is automatically selected. If necessary, you can clear this checkbox. If the item is serial-controlled and this checkbox is not selected, the Item Serials button above the

grid becomes enabled, allowing you to enter the item unit serials manually.
If the item is not serial-controlled (that is, the item's Serial Control field is left blank in **Items**), the Generate Item Serial field is disabled and not selected.

For more details about how to use the Report Operation Activity action to receive serialized and non-serialized inventory into unit and assembly packs, see Using the Receive by Pack Function on page 3753.

Receiving Co/By-Products

For production orders with co/by-products, the Receive Co/By-Products subpanel replaces the Receive subpanel. The Receive Co/By-Products subpanel is available only when the reporting operation is the last operation on the production order routing and the Move Next Operation field is selected. This subpanel allows you to receive co/by-products into inventory.

You can click +New, Delete, or More above the Receive Co/By-Products grid to manually add new items, delete non-default items, or show them by a specific group.

The Receive Co/By-Product grid consists of the following fields:

Item

Displays the item to be received.

Description 1

This field displays the primary description of the item.

Co/By Type

Displays whether the item is a co-product or a by-product.

ID

Displays the co/by-product order ID for the item.

Total Quantity to Receive

Displays the quantity to be received of the co/by-product item based on the quantity completed of the base order.

Note For substitute or unexpected items this quantity is always zero (0) as the order quantity for these items is also zero (0).

Total Quantity Received

This field is displayed blank, initially. You can click Receive All Co/By Quantity to populate from Total Quantity to Receive or enter the quantity manually in the Details window.

When selecting Receive All Co/By Quantity, verify that the Total Quantity Received is updated for all items. If an item has Lot Control set to Single, use the Details window to specify a list of serial numbers to receive.

Quantity Scrapped

Displays the quantity scrapped in the operation.

UM

Displays the inventory unit of measure (UM) as default.

Substituted for Item

Displays the item being substituted.

Substituted for ID

Displays the ID for the item being substituted.

Note Substituted for Item and Substituted for ID columns are displayed only when receiving a substitute item in the operation.

In addition, the Receive Co/By-Products subpanel offers the following options above the grid:

- Details

  You can click on Details to display the Receive Co/By-Products window. This window consists of Summary, Main, and Receive panels.
  The Summary panel is located between the menu bar and the navigation bar. It displays the co/by-product Item reference and the order ID. These fields are read-only and stay in view even when you scroll down the page.
  The Main panel displays the Item reference of the selected co/by-product, the order ID, and the Co/By Type.
  The Receive panel allows you to review information and specify the scrap quantity for the operation. This panel includes the following fields in the header frame above the grid:

  - Total Quantity to Receive
  - Total Quantity Received

    Note Total Quantity to Receive and Total Quantity Received are read-only fields displayed with the corresponding unit of measure.
  - Quantity Scrapped

    You can specify the scrap quantity for the selected co/by-product.
  - Unit of Measure
  - Conversion

    Note The Conversion and Unit of Measure fields support the Quantity Scrapped field.
  - Lot Control
  - Expire Date
  - Inventory Status

- Grade
- Assay %
- Use as Default (checkbox)

Moreover, the Receive panel grid allows you to add or remove components, show them by a specific group, or click on Attributes to launch the **Attributes** details page for item attribute .

- Receive All Co/By Quantity

  You can click Receive All Co/By Quantity to update the Total Quantity Received. This option sets the default quantity for each item. You can also enter the quantity manually in the Details window.

- Receive Substitute

  To substitute an item from the Receive Co/By-Products subpanel, select the item from the grid and click Receive Substitute. This window allows you to specify or look for a substitute item. The Receive Substitute window contains Summary, Main, and Receive panels.
  The Summary panel displays the Item and ID of the selected item. The Substitute Item and Substitute ID information appears blank and is automatically updated when specifying a substitute item in the Main panel.
  The Main panel displays the Item and ID reference of the default item for the operation as read-only fields. You can specify the Substitute Item field manually or look for the item. After specifying the substitute item, the Substitute ID updates automatically, displaying the substitute item ID.
  The Receive panel allows you to specify the quantity scrapped for the substitute item. The header frame above the grid consists of the following fields:

  - Total Quantity Received

    This quantity is updated automatically after specifying the Substitute Item field in the Main panel or entering the quantity manually in the Quantity column of the Receive grid.

  - Quantity Scrapped

    For quantity processed, the original quantity is reduced according to the open quantity method defined in **Production Control**. For quantity complete, the scrap quantity does not affect original order quantity.

  - Unit of Measure
  - Conversion

    Note The Conversion and Unit of Measure fields support the Quantity Scrapped field.

- Lot Control
- Expire Date
- Inventory Status
- Grade
- Assay %
- Use as Default (checkbox)

In addition, the Receive panel allows you to add or remove items, show them by a specific group, or click on Attributes to launch the **Attributes** details page for item attribute . When using a substitute item to replace the original item, the system removes the inventory for the original item.

Note You can enter substitute items only for the original items of the operation.

Further Operations

When the reporting action is successful, you can click Done to return to the **Production Operations Reporting** or **Production Orders Reporting** browse; or click Report Another to go back to the Main panel for another round of reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Inventory Transactions
- Production Activity Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Site Calendar
- Work Center Calendar
- WIP Status

For example, after reporting a scrap quantity within the order receipt action, you can open the **Production Activity Transactions** browse to view operation history records. After issuing components, you can check the inventory transaction history records in the **Inventory Transactions** browse. You can also check related operation information such as queue status via the **Production Order Routings** drill-down link.

General Ledger Effects

Labor reporting within receipt is determined by the Auto Labor setting and the standard run time for the corresponding production order. When performing the Receive Order action, the system automatically reports the

default labor only for operations with Auto Labor set to Yes based on the standard run time and the processed quantity. For a discrete production order, the system checks the Auto Labor field on the production order routing. For a repetitive CUM order, the system checks the effective standard routing.

For general ledger (GL) effects on labor reporting transactions, refer to Report Labor Action on page 3636.

For GL effects on scrap reporting transactions, refer to Report Rejects & Scrap Action on page 3647.

When you issue or backflush components from inventory to production, or receive quantities from production into inventory by taking the Receive Order action, the system tracks and records the quantities issued or received. The following tables list GL information about standard and average costing transactions. You can refer to them to decipher transaction types that display in reports and browses and to understand how and when various transaction types are created.

Standard Costing Transactions

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue
Material Rate Variance	tr_hist ISS-WO	RATE-VAR	Material Rate Variance Account (Production Order)	WIP Account (Production Order)	Component Issue
Inventory Receipt	tr_hist RCT-WO	RCT-WO	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt

Standard Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Production Receipt Method Variance	tr_hist RCT-WO	MTHD-CHG	Method Variance Account (Product Line)	WIP Account (Production Order)	Inventory Receipt

Average Costing Transactions

Average Transaction	Transaction Type	GL Transaction Type	DR	CR	Operation Activity
Material Actual Cost	tr_hist ISS-WO	ISS-WO	WIP Account (Production Order)	Inventory Account (Product Line)	Component Issue
Inventory Receipt	tr_hist RCT-WO	RCT-AVG	Inventory Account (Product Line)	WIP Account (Production Order)	Inventory Receipt
Overhead	tr_hist RCT-WO	OVH POST	WIP Account (Production Order)	Overhead Applied Account (Product Line)	Inventory Receipt

Report Nonproductive Labor Action

Non-productive labor activity is labor that is not associated with production, reported for either an employee, a work center, or an employee at a work center. You can use the Report Nonproductive Labor action to report this activity. Enter a valid employee ID, work center, and/or machine; then, enter the elapsed or down time.

Using this action, you can record:

- Non-productive labor for an employee, which is time not directly related to setup or production such as time spent in meetings, waiting for work, cleaning up, or preventive .
- Down time for a work center, which is idle time.

Non-production labor transaction details include the following:

- Labor cost for hours not expended on production, calculated using the employee labor rate or the work center labor rate.

- Burden cost for hours not expended on production, calculated using the work center rates, its burden rate, and burden percent.

QAD Web UI provides several ways for you to launch the **Report Nonproductive Labor** screen; you can then report non-productive labor for an employee, or down time for a work center:

- Select a production operation record in the **Production Operations Reporting** browse, and then choose Actions > *(Individual)* Report Nonproductive Labor.
- Select a work center record in the **Work Centers** view, and then choose Actions > *(Individual)* Report Nonproductive Labor.
- Select a work center record in the Work Centers panel of the **Production Resource Setup** view, and then choose Actions > *(Individual)* Report Nonproductive Labor.

The **Report Nonproductive Labor** screen also provides the drill-down link feature. By clicking on the link icon located on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation or work center you are working on, including Down Time, Employee, Site, and Department. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel enables you to enter a valid employee ID, work center, and/or machine for the report. It also allows you to set other fields like Effective Date and Shift.

Employee

Enter a valid employee for this transaction.

After you enter an employee code to report non-productive labor, the system automatically fills in the Project and Department fields according to the specified employee. You can leave Work Center and Machine blank in this case.

Effective Date

Enter a valid effective date for this transaction, which is also the general ledger (GL) effective date.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Project

Enter a valid GL project code for this transaction. If you have specified the employee, the system automatically displays the GL project assigned to this employee. You can manually change it.

Project codes are one component of an account number defined in GL setup functions. Other components of account numbers are account, sub-account, and cost center code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Although project details are not printed on standard financial statements, project summary and detail transaction reports are available to review project activity. Inventory value, but not physical inventory, can be tracked by project codes.

Site

Enter a code identifying a valid site associated with this transaction.

Note If you take the Report Labor action in **Production Operations Reporting**, the system defaults the Site, Work Center, and Machine fields from the operation record you selected. If this action is launched from **Work Centers**, the system defaults the Work Center and Machine fields from the work center record you selected, but leaves the Site field blank as there may be multiple sites identified for the work center. You must manually specify a site for this transaction.

Department

Enter a code identifying the department associated with this transaction.

Note Department can be specified for an employee and for a work center. The system defaults the Department field here to the department specified for the employee you entered. However, if the system finds the department set for the entered work center is different from the one set for the employee, it displays a warning message to notify you of the inconsistency.

Work Center

Enter a code identifying the work center associated with this transaction.

Note You can leave Work Center and Machine blank when reporting non-productive labor for a specific employee.

Machine

Enter a code identifying the machine associated with this transaction.

Note You can leave Work Center and Machine blank when reporting non-productive labor for a specific employee.

Labor

In the default view, the Labor panel displays the following fields for you to report labor data.

The system also provides another two views for reporting labor data in the **Report Nonproductive Labor** window. The Start & Stop Time view displays all fields listed except for the Actual Down Time field. Also, the system allows you to enter labor time as an elapsed time. In the view of the Elapsed Time mode, the Start Down and Stop Down fields are unavailable but the Actual Down Time field displays.

Start Down

Enter the time of day when down time began.

Except for the default view, this field also displays in the view of the Start & Stop Time mode.

Down time can be entered as a start down time and a stop down time. For example, if down time started at eleven and finished at twelve in the evening, you could enter a start down time of 23:00 and a stop down time of 00:00.

Stop Down

Enter the time of day when the down time stopped, or if Start Down Time is 0 (zero), the total amount of time spent in down time.

Except for the default view, this field also displays in the view of the Start & Stop Time mode.

Down time can be entered as a start down time and a stop down time. For example, if down time started at eleven and finished at twelve in the evening, you could enter a start down time of 23:00 and a stop down time of 00:00.

Actual Down Time

Enter the labor spent due to non-productive activities associated with a manufacturing operation, such as machine breakdown or material shortage.

Except for the default view, this field also displays in the view of the Elapsed Time mode.

Earning Code

Enter a valid earning code set up in **Earnings**. Use earning codes to identify different rates of pay, which are typically associated with different types of labor. For example, an employee's overtime rate may be double that of the regular pay rate. When labor is reported, you can optionally enter a valid earning code. Each earning code identifies the type of earning (regular, overtime, sick, vacation, or other) and the pay rate multiplier or piece rate, which impacts the amount posted to GL.

Reason

Enter a valid code, set up in **Reason Codes**, for the down time.

Remarks

Enter remarks associated with this operation, if any.

Usually the remarks identify any problems the employee faced during the operation, such as machine failures or yield problems. Remarks are maintained in operation transaction history records. This field is for reference only and appears on various reports.

When the reporting is successful, you can select Done to return to the **Production Operations Reporting** or **Work Centers** browse; or select Report Another to go back to the Main panel for another round of reporting. When you select Report Another, the Site and Effective Date fields in the Main panel remain the same as last time you reported labor, but the other values, which you updated last time, are cleared and set back to 0 (zero) or blank. You can then modify the desired fields for reporting again.

You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Departments
- Employees
- Production Activity Transactions
- Work Centers

For example, you can open the **Operation Activity Transactions** browse to view transaction history records. Assume that you have successfully completed a non-productive labor action with Actual Down Time set to 2.0 hours for a certain operation. The system generates and displays a transaction record with Transaction Type of DOWN and Actual Run Time of 2.0 hours in the **Operation Activity Transactions** browse. You can then double-click the record and check for more details in the detailed page.

General Ledger Effects

Non-productive labor and down time are used in utilization and efficiency reports. When non-productive labor is reported for an employee, GL transactions are created for labor and optionally for burden. You can report non-productive labor feedback, unassociated with any repetitive schedule or item, at any time. Time can be reported for an employee, an employee at a specific work center, or a work center. The financial effects are different for each:

- Time reported for an employee:
  - Debits Cost of Production

- Credits Labor (actual labor rate)

- Time reported for an employee at a work center:
  - Debits Cost of Production
  - Credits Labor (actual labor rate)
  - Credits Labor Burden (work center burden rate and/or work center burden percent and labor rate)
- Time reported for a work center (without an employee): There is no financial effect.

Time Reported for an Employee

You can report time for a specific employee; that is, you specify Employee but leave Work Center blank in the report.

If Earning Code is entered, the actual labor rate is calculated as follows:

*Actual Labor Rate = Actual Pay Rate * Earning Code*

The actual labor rate could be the actual pay rate for the employee. Since you do not specify a work center in this reporting case, if Actual Pay Rate is 0, no GL transaction is created.

Cost	DR	CR	Calculation
Labor	Cost of Production (Department)	Labor (Department)	Labor = Actual Labor Rate * Actual Hours

Time Reported for an Employee at a Work Center

You can report time for an employee at a work center; that is, you specify both Employee and Work Center in the report.

If Earning Code is entered, the actual labor rate is calculated as follows:

*Actual Labor Rate = Actual Pay Rate * Earning Code*

The actual labor rate could be the actual pay rate for the employee or the actual labor rate for the work center. If Actual Pay Rate is 0, the system uses the labor rate of the work center for calculation.

Cost	DR	CR	Calculation
Labor	Cost of Production (Department)	Labor (Department)	Labor = Actual Labor Rate * Actual Hours
Labor burden	Cost of Production (Department)	Burden (Department)	Burden Cost = [(Actual Labor Rate * WC Labor Burden%) + WC Labor Burden

Cost	DR	CR	Calculation
			Rate) * Actual Hours

Time Reported for a Work Center

When you report time for a work center (without Employee specified), there is no GL transaction record created.

Report WIP Adjustments Action

When the actual Work-in-Process (WIP) quantities do not match up with those recorded in your database, you can take the Report WIP Adjustments action to adjust quantities at an operation's input, output, or reject queue. The current queue balances display when you take this action:

- When you adjust the output or reject queue, you change their balances at the current operation.
- When you adjust the input queue, the net change is made both to the prior operation's output queue and to the current operation's input queue.

The system does not update the order quantity; however, it does update the quantity complete of the corresponding operation on the order routing.

Each WIP adjustment creates operation history records and generates GL transactions. The system generates one or more operation history records to record the adjustment of material at the operation. The system also creates a GL transaction record, debiting the WIP account number and crediting the Cost of Production (COP) account number. You can designate a GL account, sub-account, and cost center for the transaction using the Cost of Production field in the WIP Adjustment panel of the **Report WIP Adjustments** window. The default is the COP account defined for the item's product line.

Use this transaction carefully. You should determine the reason for the difference in the queue balance and your physical balance before adjusting WIP. For example, the difference may be due to erroneous data entry in another transaction. In this case, use this transaction to make corrections to the queue balances.

After selecting a production operation record in the **Production Operations Reporting** browse, you can choose Actions > *(Individual*) Report WIP Adjustments to open the **Report WIP Adjustments** window. Then you can adjust quantities in the queues of an operation.

For fields in the **Report WIP Adjustments** window, the system first defaults values from the production operation you selected in the browse. You can manually set the fields in the Main panel, such as Site, Production Line, Work Center, and other data necessary to locate a new production order.

Note When you manually set the fields, you must click Apply to make the search criteria take effect and let the system locate the order desired.

You can then enter the data necessary to report the quantities to adjust in the WIP Adjustment panel.

The **Report WIP Adjustments** window also provides the drill-down link feature. By clicking the link icon on the right side of the window, you can select a drill-down link to quickly access the desired browse, view, or report for learning more related information or taking further actions.

Summary

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the production operation you are working on, including Item, Site, Production Line, Cumulative Order ID, BOM/ Formula, and Routing. These fields are read-only and stay in view even when you scroll down the page.

Main

Resource Selection

Site

Enter a code identifying a valid site associated with this operation transaction.

Production Line

Enter a code identifying the production line associated with this operation transaction.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Order Selection

Effective Date

Enter a valid effective date for this operation transaction, which is also the general ledger (GL) effective date for this transaction.

The system uses the value in this field, along with the site, item number, and other fields in this function to locate the cumulative order.

Production Order

Enter the production order associated with this operation transaction.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

ID

Enter the ID for the production order.

Production order and ID together identify a specific production order. The same production order can be used with different IDs.

Item

Enter the item to be manufactured on this production order.

Routing

Enter a code identifying the routing or process used to produce this item on this production order. The code can identify an alternate routing or process.

This field can be left blank. When blank, the system determines the routing or process according to other fields you have set, such as Item, Site, and Production Line.

BOM/Formula

Enter a valid BOM or formula code.

This field can be left blank. When blank, the system determines the BOM or formula according to other fields you have set, such as Item, Site, and Production Line.

The system also displays more details about the production order on the right for reference, which are read-only:

- Cumulative Order ID
- Manufacturing Type
- Description 1 and Description 2 of the item on the order
- Unit of Measure of the item on the order

When a new production order is located and applied, the system updates the field values in this window according to the new order.

WIP Adjustment

The WIP Adjustment panel allows you to enter the data necessary to register the quantity to adjust from either the input, output, or reject queue.

The input queue holds quantities from the previous operation. The output queue holds quantities from the current operation that have not been moved to the next operation. The reject queue holds quantities rejected by the current or a subsequent operation. You can record multiple adjusted quantities with reason codes.



Employee

Enter a valid employee for this operation transaction.

Effective Date

This field is read-only, and defaults from the Effective Date value you set in the Main panel.

Shift

This field depicts the shift defined for the resource.

The value for Shift can be blank, 1, 2, 3, or 4. The default is blank.

Operation

Enter a valid operation code. The system defaults the current operation, which matches the filter criteria. You can manually change it.

Project

Enter a valid GL project code for this transaction. When you are reporting WIP adjustments for a discrete production order, the system automatically defaults the Project code from this production order. For a CUM order, the system leaves the Project field blank and allows you to enter a project code.

Project codes are one component of an account number defined in GL setup functions. Other components of account numbers are account, sub-account, and cost center code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and with the other account number components.

Although project details are not printed on standard financial statements, project summary and detail transaction reports are available to review project activity. Inventory value, but not physical inventory, can be tracked by project codes.

Work Center

Enter a code identifying the work center associated with this operation transaction.

Machine

Enter a code identifying the machine associated with this operation transaction.

Department

Enter a code identifying the department associated with this operation transaction.

Unit of Measure

Enter a unit of measure (UM), or click the look-up to open the **UM Conversions** view and select an existing one. You can also define a new one in **UM Conversions**.

Note Transaction UM in the Queue Quantities grid defaults from the Unit of Measure here. Once you change the Unit of Measure in the heading frame of the WIP Adjustment panel, the system automatically changes the Transaction UM values in the Queue Quantities grid.

Conversion

Enter the unit of measure conversion.

The conversion factor determines how the system converts quantities stated in terms of the alternate unit of measure back into terms of the item unit of measure. This is expressed as the ratio of the alternate unit of measure to the item unit of measure.

When a transaction uses an alternate unit of measure, the system accesses the appropriate conversion factor defined in **UM Conversions**.

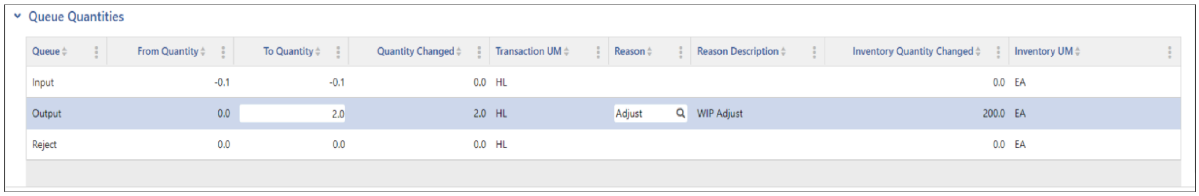
Cost of Production

Enter the general ledger (GL) account code used to offset the value of the WIP adjustment being made. This must be a valid, active account defined in **GL Accounts** with a GL Type of Standard Account. The initial value defaults from the item's product line.

The WIP adjustment transaction creates a GL transaction that credits this account and records the offset to the WIP account.

Queue Quantities

The Queue Quantities grid allows you to report a quantity to adjust at the input, output, or reject queue for the manufacturing operation. You can select the Input, Output, or Reject queue, and then set To Quantity and Reason to do the report.



Queue

Three types of queues are available in the grid:

- Input

  You can then specify the number of units to adjust at the input queue for this operation. When you adjust the input queue, the net adjustment quantity is first moved and applied to the output queue of the prior operation.

- Output

  You can then specify the number of units to adjust at the output queue for this operation. When you adjust the output queue, you change their balances at the current operation.

- Reject

  You can then specify the number of units to adjust at the reject queue for this operation. When you adjust the reject queue, you change their balances at the current operation.

If the current operation is the first one in the routing, the To Quantity field for the input queue is disabled but that for the output and reject queues are editable.

From Quantity

Displays the current quantity at the input, output, or reject queue for this operation.

To Quantity

Specify the quantity you want to adjust to at the input, output, or reject queue for this operation.

Quantity Changed

Displays the difference between the current quantity and the adjusted-to quantity at the input, output, or reject queue for this operation, which is calculated as follows:

Quantity Changed = To Quantity - From Quantity

After you specify the To Quantity value for the input, output, or reject queue, the system automatically compares it with the From Quantity value of this queue, and displays the quantity difference in Quantity Changed for your reference. For example, when From Quantity is 3 but you set To Quantity to 2, then the system displays -1 in Quantity Changed.

Transaction UM

Displays the UM to use for the transaction.

Transaction UM defaults from the Unit of Measure in the heading frame of the WIP Adjustment panel. Once you change the Unit of Measure in the heading frame, the system automatically changes the Transaction UM values in the Queue Quantities grid.

Reason

Enter a valid reason code, or click the look-up to open the **Reason Codes** view and select a reason code for the adjusted quantity. You can also define a new one in **Reason Codes**.

Each time you adjust the quantity for a certain queue (input, output, or reject), you can create only one record with one specified reason.

Reason Description

This field is read-only, and displays the short description of the reason code.

Inventory Quantity Changed

Displays the inventory quantity change caused by the adjusted quantity.

The system calculates the Inventory Quantity Change value according to the transaction UM's conversion:

Inventory Quantity Changed = Quantity Changed x Conversion of Transaction UM

Where,

Quantity Changed = To Quantity - From Quantity

For example, when From Quantity is 0 and you set To Quantity to 2, then Quantity Changed is 2. If the transaction UM's conversion is 100, then the system displays 200 in Inventory Quantity Change.

Inventory UM

Displays the Unit of Measure of the item.

Further Operations

When the reporting is successful, you can select Done to return to the **Production Operations Reporting** browse; or select Report Another to go back to the Main panel for another round of WIP adjustment reporting. When you select Report Another, all fields in the Main panel remain the same as last time you reported. You can then modify the desired fields for reporting again. You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:

- Production Activity Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Site Calendar
- Work Center Calendar
- WIP Status

For example, after reporting an adjusted quantity at the output queue of an operation, you can open the **Production Activity Transactions** browse to view operation history records. In this case, the system should have created a transaction record with Transaction Type of WIPADJ-O. You can then double-click the transaction record to view more details such as the Quantity Adjusted, Quantity Processed, Run Complete, and Debit and Credit Account. You can also view the quantities at the input, output, and reject queues of the operation by running the **WIP Status** report.

GL Effects

This transaction creates one or more operation history records to record the adjustment of material at the operation. These register the net adjustment quantities at each of the operation's queues.

Adjusting the output or reject queues reduces their balances. When you adjust the input queue, the net adjustment quantity is first moved and applied to the output queue of the prior operation.

The system does not update the order quantity; however, it updates the quantity complete of the corresponding operation on the production order routing.

The system generates a General Ledger (GL) transaction, debiting the WIP account number and crediting the Cost of Production (COP) account number. The value that the system uses for this transaction is the calculated WIP value at the operation. Adjusting the input queue uses the value of the prior operation.

Standard Transaction	Production Activity Transaction Type	GL Transaction Type	DR	CR
WIP Adjustment	op_hist WIPADJ-I WIPADJ-O WIPADJ-R	WIPADJ-I WIPADJ-O WIPADJ-R	WIP (Production Order)	Cost of Production (Transaction)

View Work Center Load Summary Action

For effective planning, you must view the load for your work centers and the schedule horizon, start/end dates, and detailed load data for the work center.

You can launch this action from the **Work Centers** hybrid view or from the Work Centers grid in the **Production Resource Setup** hybrid view. The Action form consists of the following panels:

- Main on page 3746: This panel has options that let you enter a site, start/end dates, and the horizon duration. The options are the same as those in the **View Master Schedule Summary** action.

- Work Center on page 3747: This panel displays work center information. However, the options are read-only; it is collapsed by default.
- Work Center Load Summary on page 3747: This panel displays the work center's daily, weekly, and monthly summaries; the GL period summary; non-working days; and start/end dates. The Load grid displays in this panel.

Using this action, you can determine the load that is placed on a work center. This information helps you adjust capacity or the forecast. For example, work center 100 at site 201 has loads of varying percentages for a given week, depending on the time slots (work days, available hours, and load hours). Since you know that the work center has an effective capacity in a specific period, you can quickly determine when capacity is less than the load for work center 100 during that period because the values are negative and display in red.

Note For system load capacity and percentage calculations and other detailed load data, see Work Center Load Summary on page 3747.

Summary

The Summary panel displays key data about the work center you are working on, including the work center ID, machine, site, and start/end dates. These fields are read-only and stay in view even when you scroll down the page.

Main

Use the following information to enter data in the Main panel. Once you enter data, click Search to display detailed load data for the work center.

Site

Enter a valid site for the work center. You must manually specify a site for this transaction; when you do not enter a site, the system displays an error when you click the Search button in the Main panel.

Note If this action is launched from **Work Centers**, the system defaults the work center and machine fields from the work center record you selected, but leaves the Site field blank as there may be multiple sites identified for the work center.

Start Date

Enter a valid effective start date for this transaction, which is also the general ledger (GL) effective date.

End Date

Enter a valid effective end date for this transaction.

Horizon Duration/Increment

Specify the horizon duration, then set the increment to either day, week, month, or GL period.

Work Center

You cannot edit data in this panel. Click to open the panel; when finished viewing data, click the Close button to close the panel.

Department

The department associated with the work center.

Note A department can be specified for an employee and for a work center. The system defaults the department set for the entered work center, which is different from the one set for the employee.

Queue Time

The standard time, in decimal hours, that a production order normally spends waiting at this work center before it is set up and processed.

Wait Time

The standard time, in decimal hours, that a production order normally spends waiting at this work center after processing has completed.

Run Crew

The number of people required to run the work center.

Machines

The number of machines associated with the work center.

Machines Per Operation

The number of machines per operation. As the number of machines increases, work center capacity and the number of hours a work center is available for work also increase. The number of machines per operation is also used for calculating the lead time and machine burden cost for an operation.

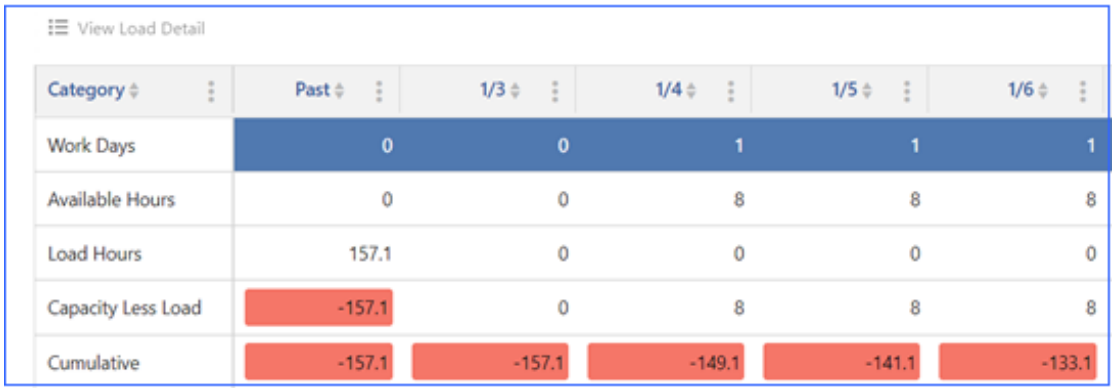
Work Center Load Summary

Once you click Search in the Main panel, the system displays data for the work center you selected.

Note After data displays in the Load grid, you can reset options in this panel—daily/weekly/monthly summaries, and so on—and the system automatically refreshes the data in the Load grid for your new selections.

You determine the dates of the record you want to view by setting the start and end dates. Viewing the data in the Load grid, you can see the work days, available hours, load hours, capacity less load, or the cumulative load for the work center.

When the capacity is less than the load and cumulative and the value is negative, the system changes the background color to red.



Options

Daily/Weekly/Monthly Summary

Select the increment for which the system displays load percentage of capacity data.

GL Period Summary

Select this option to display load percentage of capacity data by General Ledger periods.

Show Non-Working Day

Select this option to display non-working days.

Start/End Date

Displays the start/end date for data that displays. You cannot change the dates.

Viewing

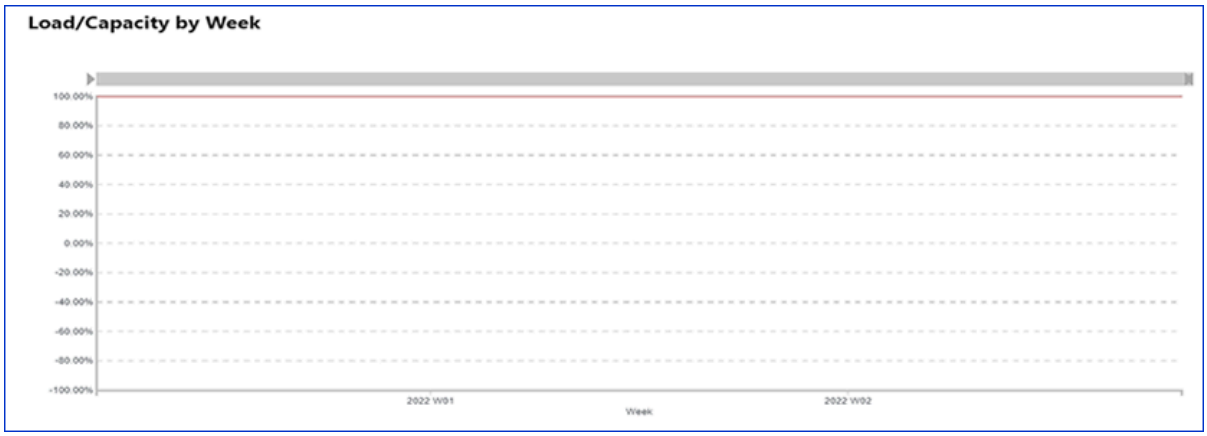
Shows you the date range that you are currently viewing, and the number of pages total to view.

Insights

For more data, you can click the Insights icon (light bulb) in the right panel of the web page. A chart displays, showing you the load % of capacity on each working day.

The system calculates the load as the *quantity to start minus the quantity processed*.

The load % of capacity is *load/capacity * 100%*.



Using the Issue by Pack Function

You can issue components by pack by running Serialization menus or using the Serialization functions embedded within Production Orders menus. This topic only discusses the Component Issue with Serialization function, which is built specifically for the Report Operation Activity, Receive Order, and Report Component Issue actions in **Production Operations Reporting** and **Production Orders Reporting**. For more information on Serialization functions, refer to the Serialization documentation.

When Serialization is enabled, the Issue by Pack field is available in the Issue Components subpanels of the **Report Operation Activity** and **Receive Order** windows as well as in the Issue panel of the **Report Component Issue** window. You can select Issue by Pack and then issue inventory for serialized items and packs. This helps you easily manage your serialized inventory.

With this function, you can:

- Issue an active unit pack, which contains non-serialized items.

  After you enter the unit pack's serial ID, the system displays the pack information in a row. You can edit the Quantity Issue field to issue all or part of the inventory in the pack.

- Issue an active unit pack, which contains serialized items.

  After you enter the unit pack's serial ID, the system displays the pack information and its lower-level item serial IDs. You can use the Issue checkbox to issue the whole pack or part of its inventory.

- Issue an active assembly pack.

  After you enter the assembly pack's serial ID, the system displays the pack information and its lower-level child packs. You can use the Issue checkbox to issue the whole pack or some of its child packs.

- Issue loose non-serialized item units.

You can leave the Serial field blank and enter the non-serialized item component and inventory details to issue loose inventory.

Note In the **Report Operation Activity** or **Receive Order** window, when Serialization is enabled and you select Auto Backflush on the Process & Complete subpanel, the system issues loose non-serialized components automatically.

- Issue loose serialized item units.

  You can enter an active item serial ID to issue its inventory.

- Aggregated packs or item serial units, which are held in an active master pack.

  After you enter an aggregated serial ID, the system notifies you of the removal of this pack from the master pack. When issuing inventory from a pack that is Aggregated, the system removes the pack from the master pack.

Select the Issue by Pack field in the heading frame of the Issue Components subpanel or the Issue panel, and click New. You can enter the serial ID to issue in the Serial field in the grid. The pack or item serial ID that you enter can be Active or Aggregated on an active master pack. If the entered serial ID is aggregated on an active master pack, to add it to the issue list, the system notifies you that it will be removed from the master pack.

After entering the serial IDs for packs to be issued in the grid, you can click Calculate Operation. The system automatically calculates an operation where the components are in use according to the component requirements, and displays the operation in the grid.

After you confirm the transaction, the system:

- Decommissions the pack serial IDs when all of its content is issued.
- Consumes item serial IDs.

Issuing Components by Pack

To issue components by pack, you can use the Report Operation Activity, Receive Order, or Report Component Issue action and select the Issue by Pack field. This section uses the Report Operation Activity action as an example.

Follow these steps to issue inventory for serialized items and packs using the Issue by Pack function:

Note The example shows the basic procedure for using this function. You can perform operations based on your requirements.

1. In **Production Operations Reporting**, select a production operation record and choose Actions > *(Individual)* Report Operation Activity.

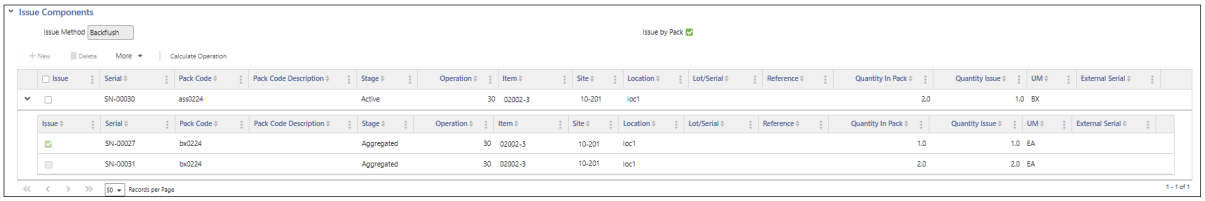
   The **Report Operation Activity** window displays.

2. Use the current production order, which defaults from the operation record you selected in the **Production Operations Reporting** browse. Alternatively, identify another production order by modifying the fields in the Main panel and clicking Apply. Then, enter Quantity Processed or Quantity Complete in the Process & Complete subpanel.

   Note The system enables Quantity Processed or Quantity Complete based on the value of Transaction Quantity Method. When Transaction Quantity Method is set to Qty Processed, the system allows you to enter Qty Processed rather than Qty Complete in the Report Operation Activity action. When Transaction Quantity Method is set to Qty Completed, the system allows you to enter Qty Complete instead.

   The Report Operation Activity action provides multiple functions. When conducting component issue with Serialization in this transaction, you can also set required fields in the other subpanels as needed, to perform more production activities concurrently. For example, you can report rejects and scrap quantities using the Rejects and Scrap subpanels. For more details about the production activities supported in the Report Operation Activity action, refer to Report Operation Activity Action on page 3594.

3. Select the Issue by Pack field in the Issue Components subpanel.



   Note that the Issue Components subpanel is available only when Auto Backflush is not selected on the Process & Complete subpanel. In addition, the Issue by Pack field is available only when Serialization is enabled.

   Note To activate Serialization functions, select the Enable Serialization checkbox in the Serialization panel of **Inventory Control**. You can also define control settings for the Serialization functionality in this panel.

   You must select the Issue by Pack field if you want to issue components by pack in this transaction. Then the system displays Serialization-related fields in the grid below for you to manage your serialized inventory.

4. Click New. Leave the Serial field blank or enter the serial of a unit pack, master pack, or serialized item unit in this field.

   When leaving the Serial field blank, you can enter a non-serialized item component in the Item field and set inventory details to issue loose inventory.

When entering an existing serial in the Serial field, note that you can only enter the serials for unit packs in Active or Aggregated stage, master packs in Active stage, loose serialized item units in Active stage, and packs that contain serialized item units in Active stage.

Note If you enter a pack that is in Aggregated stage, to add it to the issue list, the system notifies you that it will be removed from the master pack.

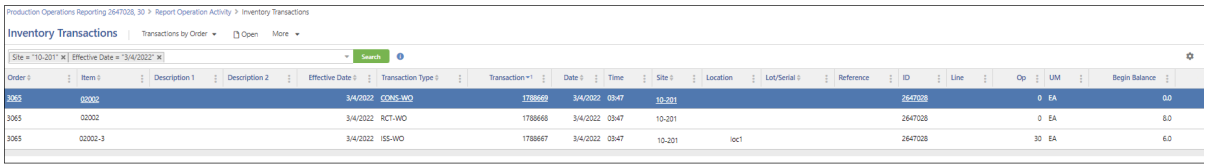
5. Specify the inventory to be issued in the grid:
   - If you entered a unit pack, which contains serialized items, select the Issue checkboxes for the items to be issued. You can select Issue in the parent row to issue the whole pack. If you issue all the items in the pack, the pack stage changes to Decommissioned after the transaction is completed. If you select Issue in both the parent row and some of the child rows, the unit pack becomes Decommissioned and the selected items become Consumed after the transaction. If you only select Issue for some of the child rows but do not select the parent row, the system issues only the inventory of the selected items and changes their stages to Consumed. The system leaves the parent pack and the other items, which are not selected, in Active stage.
   - If you entered a unit pack, which contains non-serialized items, you can edit the Quantity Issue field to issue all or part of its inventory in the pack. If you only issue part of the inventory, the unit pack becomes Decommissioned after the transaction is completed. The system issues only the entered quantity from the inventory; the rest quantity is removed from the pack and becomes loose inventory.
   - If you entered a master pack, select Issue for the child packs that you want to issue. When a master pack is selected, you can issue the whole pack. If you select Issue in both the parent row and some of the child rows, both the master pack and the selected child packs become Decommissioned after the transaction is completed. If you only select Issue for some of the child rows but do not select the parent row, the system issues only the inventory of the selected child packs and changes their stages to Decommissioned. The system leaves the master pack and the other child packs, which are not selected, in Active stage.
   - If you entered a loose serialized item unit, select Issue for the serialized item unit that you want to issue.
6. Click Submit to complete the transaction.
7. When the transaction is successful, click Done to return to the **Production Operations Reporting** browse; or click Report Another to go back to the Main panel for performing another transaction.

Note When you select Report Another, all fields in the Main panel remain the same as last time you set them for the transaction.

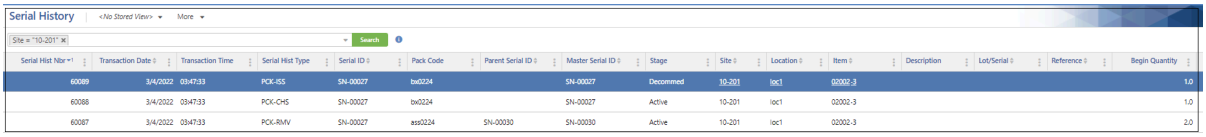
8. (Optional) When you select Report Another, you can modify the desired fields for performing a transaction again. You can also select a drill-down link in the right pane to open a desired browse, view, or report, including:
   - Inventory Transactions
   - Production Activity Transactions
   - Production Line Calendar
   - Production Order Routings
   - Production Orders
   - Serial History
   - Serials
   - Site Calendar
   - Work Center Calendar
   - WIP Status

   For example, you can use the **Inventory Transactions** drill-down link to check the inventory transaction history records that were created. You can also open the **Serial History** view to view the generated serial history transaction records.

   Inventory Transactions



   Serial History



Using the Receive by Pack Function

You can receive inventory into packs by running Serialization menus or using the Serialization functions embedded within Production Orders menus. This topic only discusses the Receipt with Serialization function, which is built specifically for the Report Operation Activity and Receive Order actions in **Production Operations Reporting** and **Production Orders Reporting**. For more information on Serialization functions, refer to the Serialization documentation.

Note When Serialization is enabled, the Receive by Pack field is available in the Receive subpanel of the **Report Operation Activity** window and in the Inventory to Receive subpanel of the **Receive Order** window. You can select Receive by Pack, and then set required fields to receive finished goods by pack.

The Receipt with Serialization function supports the following use scenarios:

- Creating and receiving unit packs
- Creating and receiving assembly packs
- Receiving inventory into existing unit and assembly packs
- Receiving loose inventory

Creating and Receiving Unit Packs

You can create a new unit pack during the transaction or you can load and receive the items into an existing unit pack in New, Active, or Decommissioned stage. The serialized items can be existing and you can enter the item unit serials manually or you can have the system automatically generate new item unit serials.

If necessary, you can receive a mixed unit pack that contains multiple lot numbers.

By selecting the Auto Generate Packs field, you can build and receive multiple unit packs at once and specify the quantity in any partially filled packs.

Creating and Receiving Assembly Packs

You can create and receive a multi-level assembly pack based on a BOP code. You can build the assembly pack with serialized or non-serialized items.

Note Adaptive UX supports only two levels of packs in receipt functions. If you want to have three or more levels of packs, you must receive the two-level packs first and then build them onto the upper-level pack by using the Build Pack action in **Serials**.

If necessary, you can build a mixed assembly pack that contains different lot numbers. For example, you can receive unit packs and loose items.

You can also receive multiple assembly packs by selecting both the Receive Assembly Pack and Auto Generate Packs fields.

Receiving Inventory into Existing Unit and Assembly Packs

You can receive inventory into existing unit and assembly packs that are in New, Active, or Decommissioned stage.

Note When adding more inventory to an active assembly pack, you cannot add inventory to the unit packs that are already included in the

assembly pack. However, you can add new unit packs or loose inventory to this assembly pack.

Receiving Loose Inventory

You can receive loose inventory for serialized or non-serialized items. The serialized items can be existing in the New or Decommissioned stage, or you can have the system auto-generate new serials for each item during the receipt transaction.

For more use cases supported by this function, refer to Use Cases on page 3758.

Receiving Finished Goods by Pack

To receive finished goods by pack, you can use the Report Operation Activity or Receive Order action and select the Receive by Pack field. This section uses the Report Operation Activity action as an example.

Follow these steps to receive packaged (Serialized) finished production into inventory using the Receive by Pack function:

Note The example below shows the basic procedure for using this function. You can perform operations based on your requirements. For example, you can skip steps 5 through 7 but directly click +New Assembly, +New Unit, or +New Loose Inventory to manually add assembly packs, unit packs, or loose item inventory as needed.

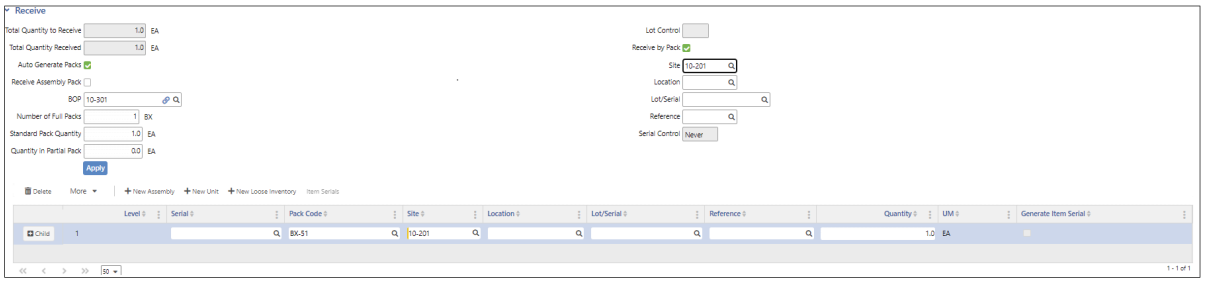
1. In **Production Operations Reporting**, select a production operation record and choose Actions > *(Individual)* Report Operation Activity.

   The **Report Operation Activity** window displays.
2. Use the current production order, which defaults from the operation record you selected in the **Production Operations Reporting** browse. Alternatively, identify another production order by modifying the fields in the Main panel and clicking Apply. Then, enter Quantity Processed or Quantity Complete in the Process & Complete subpanel.

   Note The system enables Quantity Processed or Quantity Complete based on the value of Transaction Quantity Method. When Transaction Quantity Method is set to Qty Processed, the system allows you to enter Qty Processed rather than Qty Complete in the Report Operation Activity action. When Transaction Quantity Method is set to Qty Completed, the system allows you to enter Qty Complete instead.

   The Report Operation Activity action provides multiple functions. When conducting receipt with Serialization in this transaction, you can also set required fields in the other subpanels as needed, to perform more production activities concurrently. For example, you can report rejects and scrap quantities using the Rejects and Scrap subpanels. For more details about the production activities supported in the Report Operation Activity action, refer to Report Operation Activity Action on page 3594.

3. Select the Receive by Pack field in the Receive subpanel.



Note that the Receive subpanel displays only when the reporting operation is the last one in the production order routing and the Move Next Operation field is selected in the Process & Complete subpanel. In addition, the Receive by Pack field is available only when Serialization is enabled.

Note To activate Serialization functions, select the Enable Serialization checkbox in the Serialization panel of **Inventory Control**. You can also define control settings for the Serialization functionality in this panel.

You must select the Receive by Pack field if you want to receive finished products into inventory as packaged goods in this transaction. Then the system displays Serialization-related fields for you to receive serialized and non-serialized inventory into unit and/or assembly packs.

4. Enter the Site, Location, Lot/Serial, and Reference information in the heading frame of the Receive subpanel.

   The Site field is mandatory, but you can leave the other fields blank based on your requirements.

   Note The inventory information entered in the heading frame defaults into the Receive grid when rows are added. This is helpful if you are receiving a pack with the same item, lot/serial, and reference information because such information automatically defaults into those fields when you add a row. If you are receiving a mixed pack that contains different lot/serials, leave these fields blank and you can enter the specific inventory information in the Receive grid.

5. (Optional) Select the Auto Generate Packs and/or Receive Assembly Pack fields if you want to create multiple unit packs at once based on the BOP Code entered, or to receive a multi-level assembly pack.

   The system displays different Serialization fields in the heading frame of the subpanel, depending on the settings of the Auto Generate Packs and Receive Assembly Pack fields.

6. (Optional) Set the fields for automatically generating units and/or assembly packs in the heading frame. Accept or edit the default BOP code.

Note For details about the fields in the heading frame, see the field descriptions in Report Operation Activity Action on page 3594.

7. (Optional) Click Apply.

   The system automatically generates unit and/or assembly packs using the inventory information you entered, and displays them in the Receive grid.

   Note If there are packs available in the grid, when you click Apply, the system displays a message, asking whether you want to replace or append the existing content in the grid. Choose Replace or Append as needed.

8. In the Receive grid, specify the inventory to be received.

   When there are packs existing in the grid, you can select a row and edit the fields. Note that:

   - For a master-level pack in the serial hierarchy, you can edit Site and Location.
   - For a lowest-level pack in the serial hierarchy, you can edit Lot/Serial, Reference, and Quantity.

   When you manually enter a serial ID, the stage of the serial could be Active, New, Decommissioned, or Pending. You can also enter a serial ID that does not exist in the system.
   To remove a pack, select the row and click Delete. To add an assembly pack, click +New Assembly. To add a unit pack, click +New Unit. To add loose inventory, click +New Loose Inventory. To add a child row, select the parent row and then click +Child.
   You can check the section **Use Cases** below for typical cases supported.

   Note For details about the fields in this grid, see the field descriptions in Report Operation Activity Action on page 3594.

9. Click Submit to complete the transaction.

   The system shows the serials that were created.



10. When the transaction is successful, click Done to return to the **Production Operations Reporting** browse; or click Report Another to go back to the Main panel for performing another transaction.

    Note When you select Report Another, all fields in the Main panel remain the same as last time you set them for the transaction.

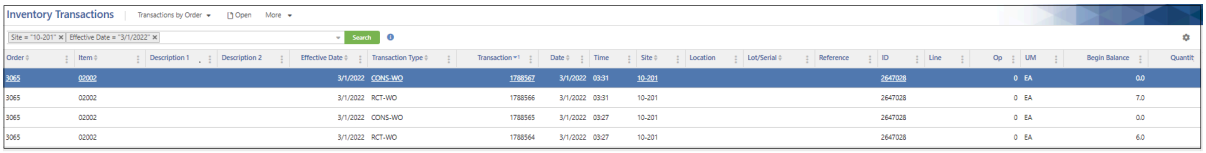
11. (Optional) When you select Report Another, you can modify the desired fields for performing a transaction again. You can also select

a drill-down link in the right pane to open a desired browse, view, or report, including:

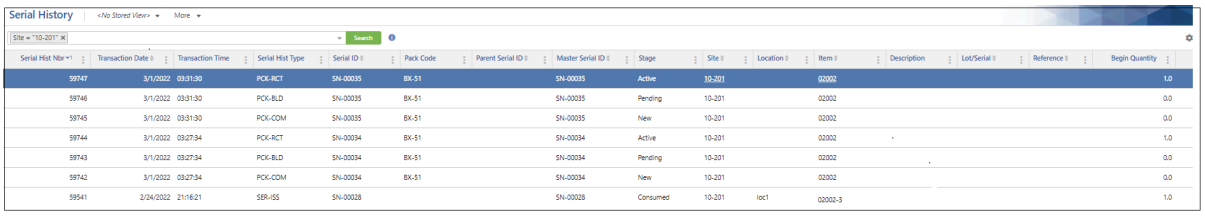
- Inventory Detail
- Inventory Transactions
- Item Packaging Assignments
- Items
- Packaging Structures
- Production Activity Transactions
- Production Line Calendar
- Production Order Routings
- Production Orders
- Serial History
- Serials
- Site Calendar
- Work Center Calendar
- Serialized Inventory
- WIP Status

For example, you can use the **Inventory Transactions** drill-down link to check the inventory transaction history records that were created. You can also open the **Serial History** browse to view the generated serial history transaction records.

Inventory Transactions



Serial History



Use Cases

The following table summarizes a few scenarios for receiving packaged (Serialized) finished production into inventory within this transaction.

Note When Serialization is enabled, select the Receive by Pack field in the Receive subpanel of the **Report Operation Activity** window or in the Inventory to Receive subpanel of the **Receive Order** window. This is the prerequisite for all the use cases listed in the table. In this section, we use the Report Operation Activity action as an example.

Use Case	Steps	Remarks
Receive and create a new unit pack with the same lot/serial	1. Click +New Unit above the Receive grid to manually add a unit pack. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. You can modify such information in the grid if you want. 2. Enter or modify the Pack Code field. 3. Enter the quantity to be received in the Quantity field. **Note** If the item is serial-controlled (that is, the item's Serial Control field is set to Mandatory in **Items**), the Generate Item Serial checkbox is selected by default. When you click Submit to complete this transaction, the system automatically generates serials for the number of serialized items	

Use Case	Steps	Remarks
	specified in the Quantity field. You can clear the Generate Item Serial checkbox and click Item Serials above to enter the item unit serial manually. 4. If necessary, repeat the preceding steps to add more packs to the Receive grid.	
Receive and create a new mixed unit pack with different lot/ serials	1. Click +New Unit above the Receive grid to manually add a unit pack. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. You can modify such information in the grid if you want. 2. Enter or modify the Pack Code field for the unit pack row. 3. In the unit pack row, click +Child to add a child row to the parent row. 4. In the child row, set Lot/Serial, Reference, and Quantity. **Note** If the item is serial-controlled, the Generate Item	You can repeat steps 3 and 4 to add multiple lots. The Lot/Serial and Reference for each child pack must be different.

Use Case	Steps	Remarks
	Serial checkbox is selected by default. When you click Submit to complete this transaction, the system automatically generates serials for the number of serialized items specified in the Quantity field. You can clear the Generate Item Serial checkbox and click Item Serials above to enter the item unit serial manually. 5. If necessary, repeat the preceding steps to add more packs to the Receive grid.	
Receive an existing unit pack or receive inventory into an existing unit pack	1. Click +New Unit above the Receive grid to manually add a unit pack. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. 2. Enter the serial of an existing unit pack in the Serial field. **Note** The pack must exist in the system	

Use Case	Steps	Remarks
	and must be in New, Active, or Decommissioned stage. The inventory information in the pack defaults into the relevant fields. You can modify such information in the grid. 3. Optionally, select the unit pack row, and click +Child to add a child row to the parent row. You can then set Lot/Serial, Reference, and Quantity for the child row. In this way, you can receive multiple lots to the unit pack. 4. If necessary, repeat the preceding steps to add more packs to the Receive grid.	
Receive serialized items **(setting Generate Item Serial to No)**	1. Click +New Unit above the Receive grid to manually add a unit pack. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. You can modify such	If the item is not serial-controlled (that is, the item's Serial Control field is left blank in **Items**), the Generate Item Serial field is disabled and not selected.

Use Case	Steps	Remarks
	information in the grid if you want. 2. Enter the Pack Code, Lot/Serial, Reference, and Quantity information. 3. Clear the Generate Item Serial checkbox in the row. **Note** For a serial-controlled item, this checkbox is automatically selected when rows are added to the grid. Then when you click Submit to complete this transaction, the system automatically generates serials for the number of serialized items specified in the Quantity field. In this use case, make sure that this checkbox is not selected. 4. Click Item Serials above the grid. **Note** When the Generate Item Serial checkbox is cleared, the Item Serials button is enabled. The system displays the **Item Serials** view.	

Use Case	Steps	Remarks
	5. In the **Item Serials** view, click New and enter the existing item unit serial (in New stage) in the Serial field. When finished, click OK to close the **Item Serials** view. 6. If necessary, repeat the preceding steps to receive more packs with serialized item units.	
Receive multiple unit packs (using the Auto Generate Packs field)	1. Select Auto Generate Packs in the heading frame of the Receive subpanel. When this field is selected, the Number of Full Packs, Standard Pack Quantity, and Quantity in Partial Pack fields are displayed in the heading frame. 2. Enter the BOP code. 3. Enter the number of full packs you want to receive in Number of Full Packs and enter the number of items in a standard pack in Standard Pack Quantity. 4. Optionally, if you are receiving a pack that is partially full, enter the number of	BOP is mandatory.

Use Case	Steps	Remarks
	items in that pack in Quantity in Partial Pack. 5. Click Apply to add the packs to the Receive grid. The system adds the Number of Full Packs to the Receive grid with each pack containing the item quantity entered in the Standard Pack Quantity field. And if entered, the system adds the pack containing the partial quantity. **Note** Each time you click Apply, the Receive grid is updated to reflect the quantities entered in the Number of Full Packs, Standard Pack Quantity, and Quantity in Partial Pack fields. If there are packs available in the grid, when you click Apply, the system prompts you to replace or append the existing content in the grid. Choose Replace or Append as needed. 6. Once the packs have been added to the Receive grid, enter more inventory information (Serial, Pack Code, Site,	

Use Case	Steps	Remarks
	Location, Lot/ Serial, Reference, or Quantity) in the rows.	
Receive an assembly pack	1. Click +New Assembly above the Receive grid to manually add an assembly pack. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. You can modify Site and Location in the grid if you want. 2. Enter or modify the Pack Code for the assembly pack. 3. In the assembly pack row, click +Child to add child rows to the assembly pack row. Enter the information about the child packs being received: ◦ Enter the Pack Code for the lower-level pack. ◦ Set the Lot/Serial, Reference, and Quantity fields	

Use Case	Steps	Remarks
	in each child pack. 4. If necessary, repeat the preceding steps to add more assembly packs to the Receive grid.	
Receive multiple assembly packs (using the Auto Generate Packs and Receive Assembly Pack fields)	1. Select Auto Generate Packs and Receive Assembly Pack in the heading frame of this subpanel. **Note** The Receive Assembly Pack field is disabled and set to No by default. It is enabled only when the Auto Generate Packs field is selected. When Auto Generate Packs and Receive Assembly Pack are both selected, the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields are visible in the heading frame. These fields allow you to easily populate the Receive grid with multiple assembly packs. 2. Enter the BOP code. 3. Enter the number of assembly	BOP is mandatory.

Use Case	Steps	Remarks
	packs to receive in Number of Assembly Packs. 4. Enter the number of child packs that each assembly pack contains in Standard Assembly Pack Quantity. 5. Enter the number of items in the child pack in Standard Child Pack Quantity. 6. Click Apply to add the specified number of assembly packs, child packs, and child pack quantities to the Receive grid. **Note** Each time you click Apply, the Receive grid is updated to reflect the quantities entered in the Number of Assembly Packs, Standard Assembly Pack Quantity, and Standard Child Pack Quantity fields. If there are packs available in the grid, when you click Apply, the system prompts you to replace or append the existing content in the grid. Choose Replace or Append as needed.	

Use Case	Steps	Remarks
	7. Once the assembly and child packs have been added to the Receive grid, enter more inventory information (Site, Location, Lot/ Serial, Reference, or Quantity) in the parent and child rows. Note that: ◦ For a master-level pack in the serial hierarchy, you can edit Site and Location. ◦ For a lowest-level pack in the serial hierarchy, you can edit Lot/Serial, Reference, and Quantity.	
Receive loose inventory	1. Click +New Loose Inventory above the Receive grid to manually add a row to the grid. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. You can modify such	You can also receive non-serialized items with this function. If the item is not serial-controlled (that is, the item's Serial Control field is left blank in **Items**), the Generate Item Serial field is disabled and not selected.

Use Case	Steps	Remarks
	information in the grid if you want. In this row, the Pack Code field is disabled and left blank. 2. Set the Site, Location, Lot/ Serial, and Reference information. 3. Enter the quantity to be received in the Quantity field. **Note** For a serial-controlled item, Generate Item Serial is automatically selected. Then when you click Submit to complete this transaction, the system automatically generates serials for the number of serialized items specified in the Quantity field. 4. (Optional) If you want to manually enter item serials, clear the Generate Item Serial checkbox and then click Item Serials above the grid. The system displays the **Item Serials** view. In the **Item Serials** view, click New and enter the existing item unit serial (in	

Use Case	Steps	Remarks
	New stage) in the Serial field. When finished, click OK to close the **Item Serials** view. 5. If necessary, repeat the preceding steps to add more loose inventory rows to the Receive grid.	
Receive and load unit packs into an existing master pack	1. Click +New Assembly above the Receive grid to manually add an assembly pack. The inventory information (Site, Location, Lot/Serial, and Reference) that you entered in the heading frame of the Receive subpanel defaults into the grid when you add a row. 2. In this row, enter the serial of an existing master pack in the Serial field. **Note** The pack must exist in the system and must be in New, Active, or Decommissioned stage. The inventory information in the pack defaults into the relevant fields. 3. Select the master pack row, and click +Child to add child	When adding inventory to an active assembly pack, you cannot add inventory to the unit packs that are already contained in the assembly pack. However, you can add new unit packs or loose inventory to the assembly pack.

Use Case	Steps	Remarks
	rows to the parent row. You can enter the serial of an existing unit pack in the Serial field for each child row, or leave the Serial field blank. Set Lot/Serial, Reference, and Quantity. In this way, you can load more packs to the master pack. 4. If necessary, repeat the preceding steps to add more master and unit packs to the Receive grid.	

Note that this section lists only a few typical scenarios for receipt with Serialization. You can use this function to create unit and/or assembly packs based on your requirements and then receive serialized and non-serialized inventory. For example, if necessary, you can build a mixed assembly pack by loading a combination of unit packs and loose items into the master pack.

Production Orders Reporting

Production Orders Reporting also allows you to report production transactions for a production order, and supports multiple actions such as Report Component Issue and Receive Order.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Report Component Issue Action

AUX provides two ways for you to launch the **Report Component Issue** window; you can then report component issue by operation or by order:

- Select a production operation record in the **Production Operations Reporting** browse, and then choose Actions > *(Individual)* Report Component Issue.
- Select a production order record in the **Production Orders Reporting** browse, and then choose Actions > *(Individual)* Report Component Issue.

Note If you take the Report Component Issue action in **Production Operations Reporting**, the system defaults the Issue By field to Operation and displays the Operation field below. If this action is launched from **Production Orders Reporting**, the system defaults the Issue By field to Order, without displaying the Operation field. You can modify the Issue By field as you want.

For details, see Report Component Issue Action on page 3679.

Receive Order Action

There are two ways for you to launch the **Receive Order** window; you can then record completions against a production order:

- Select a production operation record in the **Production Operations Reporting** browse, and then choose Actions > *(Individual)* Receive Order.
- Select a production order record in the **Production Orders Reporting** browse, and then choose Actions > *(Individual)* Receive Order.

Note If you take the Receive Order action in **Production Operations Reporting**, the system defaults the Work Center and Machine in the Resource Selection subpanel from the operation you selected. If this action is launched from **Production Orders Reporting**, the system leaves Work Center and Machine blank.

Note You cannot use the Recieve Order action when the production order selected is WIP Lot Trace controlled.

For details, see Receive Order Action on page 3693.

Subcontract Shipper Print

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Ship-From

Enter the site at which this shipper will be assembled and shipped. This field is mandatory.

Note If site security is configured, you must select a valid site within the limitations of the security settings.

Shippers

Enter the subcontract shipper number. This field is mandatory.

Click **Run** to generate the report.

Bulk Item Picklist Print

Filter

The Filter panel contains filter criteria that you can set for picklists, sites, and transfer-to sites. You can choose whether to reprint picklists, print shortage tags, break pages by sort option, and display master serial IDs. You can also choose a method by which to sort the picklist and to add remarks.

Picklist

A number identifying the bulk item picklist to be printed.

Site

A number identifying the site that this bulk item picklist applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Transfer To

A number identifying the site to which the selected bulk item is to be transferred.

Reprint Picklist

Specify whether to allow the picklist reprint function.

The default is No.

Picklist Sort By

Specify the sort order of the components on each picklist.

The options include Location and Item Nbr. The default is Location.

Page Break By Sort Option

Choose whether to break pages by sort option.

The default is No.

Print Shortage Tags

Specify whether to print shortage tags in the picklist.

Shortage tags are printed based on input and include item required, quantity, order number, and production line.

The default is No.

Remarks

Specify whether to include associated remarks on the picklist.

The default is left blank.

Display Master Serial ID

Specify whether to display master serial IDs on the picklist.

The default is Yes.

Operation Transaction Detail

Filter

The Filter panel contains key information that identifies a transaction number, a production order, an ID, an item, a site, a production line, an employee, a work center, a machine, and a transaction type. You can set a transaction date and an effective date to select transaction records.

Transaction Number

A number identifying an associated transaction history record for this function to consider.

Transaction number selects and sorts information on reports and inquiries. Transactions usually appear in descending sequence by date and transaction number.

Transaction Date

The date on which this operation feedback transaction was entered into the system. Enter a transaction date to select a transaction record for this report.

Both a transaction date and a transaction effective date are associated with each operation transaction.

Effective Date

The general ledger effective date associated with this operation feedback transaction. Enter an effective date to select a transaction record for the report.

Effective date will not always be the same as the date the transaction was entered, in particular at period end. If the period ends Friday, but you finish entering labor time cards on Monday, you may set the effective date to Friday's date so that the labor accrual appears in the correct period.

Production Order

A number identifying a production order to select the associated transaction history.

The production order number and lot ID together identify a specific production order. The same production order can be used with different lot IDs. If the field is left blank, the system automatically assigns one to the order.

ID

The ID associated with the selected production order which is used to identify a transaction history record.

Item

The code of the item associated with this feedback.

Item codes uniquely identify items or products—raw materials, purchased or manufactured intermediates, finished items, or packaging materials.

Item codes also identify planning items, configured products, service kits, and repair parts used in service activities. Operation transaction history is maintained by, and all reports can be selected by, item code.

Site

A code identifying the facility at which this work order is being processed. Enter the site number to identify an operation.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

When components and labor are reported against this manufacturing order, the work in process (WIP) value is increased at this site and manufacturing costs are charged to this site.

Production Line

A code identifying a production line for which you want items set up for this operation transaction.

The Production Line default view lists all the production lines with details displayed in columns.

Employee

A code identifying a specific employee who is related to the operation transaction, and referencing their name and address, employee data, and applicable employment information.

You can select and sort most production history reports by employee code.

Work Center

A code identifying the work center where the production operation took place.

Enter a work center number to select the associated operation transactions.

Machine

A number identifying the machine used for this production operation.

Enter a machine number to select the associated operation transactions.

Transaction Type

A code identifying the source of the operation transaction.

Values may be MOVE, LABOR, SCRAP, DOWN, or DOWNTIME.

This code is system assigned and determines what information appears on different reports. Most reports and inquiries can be selected and sorted by transaction type.

Picklist History Delete & Archive

Filter

The Filter panel contains key information that identifies a picklist number and a site. You can choose to delete and archive the selected picklist history and copy it to an archive file.

Picklist Number

A number identifying a picklist to retrieve a picklist history that you want to operate on.

Site

A code identifying a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Enter a site number to select a picklist history record for this report.

Usually, each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Delete

Indicate whether to delete the selected records or to generate a report only.

No: The selected records are not deleted. A report is generated listing the selected records.

Yes: The selected records are deleted from your database and listed in a report.

If you set Archive to Yes when Delete is also set to Yes, the selected records are copied to an ASCII file before deletion. You can reload the deleted data using Archive File Reload, if needed. Otherwise, deleted data cannot be recovered.

Archive

Indicate whether to archive the selected records.

When you set Archive to Yes, the selected data is copied to an ASCII file.

When you set Archive to No, the selected records are not copied to any ASCII file.

Archive File

When you set Archive to Yes, the selected data is copied to an ASCII file named pickYYMMDD.hst, where pick is the module code and YYMMDD is the creation date of the file.

If this file does not already exist, it is created. If the file exists because you already ran delete or archive that day, the system adds an

additional archived record to the end of the file. Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data.

Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Note The date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur. To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, temporarily change your country code to match that of the user who archived the data.

Production Order Picklist Print

Filter

The Filter panel contains filter criteria that you can set for picklist, site, production line, shift, release date, due date, production order, and ID. You can choose whether to include work orders, repetitive orders, or both; to reprint picklists; or to print shortage tags. You can also choose the attribute profile, item level attributes, and lot attributes; and to group attributes by category. You can choose a method by which to sort the picklist, whether to break pages by sort option, to display master serial IDs, and to add remarks.

Picklist

A number identifying the production order picklist that is to be printed.

Site

A number identifying the site that this production order picklist applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Production Line

A production line number that this production order applies to.

A production line is a sequence of work centers at a site, through which production can advance for the completion of manufacturing operations.

Shift

A number identifying a shift, which is used to select a production order picklist for this report.

Shift schedules define how many days a week and how many hours the work center or production line is run. The value for shift can be blank, 1, 2, 3, or 4.

Release Date

The date that the production order is scheduled to be released to production.

Due Date

The date that this production order is due to be completed.

Production Order

A number identifying the production order, which is used to select an associated picklist to print.

The production order number and lot ID together identify a specific production order. The same production order can be used with different lot IDs.

ID

Specify a unique production order lot ID to identify the production order for printing a picklist.

Include WO/Rep/Both

Specify whether to filter production orders by discrete orders only, by repetitive orders only, or by both, which means that no filtering is applied.

The default is Both.

Reprint Picklist

Specify whether to allow the picklist reprint function.

The default is No.

Print Shortage Tags

Specify whether to print shortage tags in the picklist.

Shortage tags are printed based on input and include item required, quantity, order number, and production line.

Picklist Sort By

Specify the sort order of the components on each picklist.

The options include Location and Item Nbr. The default is Location.

Page Break By Sort Option

Choose whether to break pages by sort option.

The default is No.

Remarks

Specify whether to include associated remarks on the picklist.

The default is left blank.

Display Master Serial ID

Specify whether to display master serial IDs on the picklist.

The default is Yes.

Print Attribute Profile

Specify whether to print attribute profiles for the selected picklist, in which the attributes and the details for each attribute can be viewed.

The default is Yes.

Print Item Level Attributes

Specify whether to print attributes for specific items on the selected picklist.

The default is No.

Group Attributes by Category

Specify whether to use attribute categories to organize and label groups of attributes.

The default is No.

Print Lot Attributes

Specify whether to include lot attribute orders on the picklist.

The default is No.

Production Order Status

Filter

The Filter panel contains key information that identifies a production order, a site, a production line, an item number, a batch, and a due date. You can choose an ID, a sales or job number, a supplier, and the status that apply to the production order. You can choose whether to print order bill detail and routing detail on the report, and whether to break pages of the report by orders.

Production Order

A number identifying a production order for this report.

The production order number and ID together identify a specific production order. The same production order can be used with different IDs.

Site

A code identifying the site that the selected production order applies to.

A site represents a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Production Line

A code identifying a production line for selecting production orders for this report.

Item Number

A number identifying an item, which is used to select production orders for this report.

This is the item being manufactured on this production order, either a finished product or an intermediate subassembly. The item can be a co-product, by-product, or base process item.

Batch

A number identifying a batch that groups and categorizes production orders.

Batch is an optional reference field which can be used to track production orders. One batch number can be assigned to many production orders.

Due Date

The date that this production order is due to be completed.

Enter the due date to select production orders for this report.

ID

Enter one or a range of IDs to identify production orders to include in the report.

The production order and ID together identify a specific production order. The same production order can be used with different IDs.

Sales/Job

A sales or job number used to select production orders to include in the report.

Sales and job numbers can be referenced on sales orders, purchase orders, work orders, inter-site requisitions, and inventory transactions.

The sales and job number is stored in transaction history, allowing you to review the progress of activities associated with a particular sales order, contract, or job number.

Supplier

A code identifying a supplier for this production order.

When an order is entirely subcontracted, the supplier can be recorded on the production order and on the production order routing operation.

Status

Specify the status of selected production orders.

You can leave this field blank or set it to F (Firmed), E (Exploded), A (Allocated), or R (Released).

The default is blank.

Print Order Bill Detail

Specify whether to print the detail for the production order on this report.

The default is Yes.

Print Routing Detail

Specify whether to print the detailed routing information for the production order.

The default is Yes.

Page Break On Order

Specify whether to print each order on a new page.

The default is Yes.

Production Order WIP Costs

This report enables you to review the data for each cost set and to manage the WIP costs for production orders.

Filter

The Filter panel contains key information that identifies an account, a sub-account, a cost center, a project, a production order, an ID, an item number, and a site. You can select a sales or job number, a supplier, a report currency, and a cost set. You can also choose whether to display periodic costing on this report.

Account

The first account code in a range to include in the report.

Leave blank to begin with the first account code matching the other criteria.

Sub-Account

The first sub-account in a range to include in the report.

Sub-accounts are used to break down activity in aGL accountcode, to provide further detail in financial statements.

Leave blank to begin with the first sub-account matching the other criteria.

Cost Center

The first cost center in a range to include in the report.

Cost centers break down activity and track expenses inGL accountsandsub-accounts. Typically, a cost center is either a department or a profit center.

Leave blank to begin with the first cost center matching the other criteria.

Project

The first project in a range to include in the report.

Projects are chart of account (COA) elements that provide analytical reporting on activities.

Leave blank to begin with the first project matching the other criteria.

Production Order

A number identifying a production order to include in the report.

The production order number and lot ID together identify a specific manufacturing order. The same work order may be used with different lot IDs.

ID

The first lot or serial number in a range to include in the report.

Item Number

The item being manufactured on this work order, either a finished product or an intermediate subassembly.

Enter the item number to include in the report.

Site

A code that identifies the site associated with these production lines.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Sales/Job

A number identifying a sale or job for selecting production orders to include in the report.

Sales and job numbers can be referenced on sales orders, purchase orders, work orders, inter-site requisitions, and inventory transactions.

Supplier

A code identifying the supplier associated with selected production orders.

When a work order is entirely subcontracted, the supplier can be recorded on the work order and on the work order routing operation.

Report Currency

Choose a currency that you want this financial data to be translated in, for the purpose of producing financial reports.

The default is CAD.

Periodic Costing

Choose whether to display periodic costing on the report.

The default is No.

Periodic costing provides functions that support local requirements and business practices when companies revalue and recalculate inventory, transactions, and cost of goods sold.

Periodic costing programs optionally calculate the FIFO, WAVG, or LIFO cost of an item based on recorded data; such as inventory transactions, BOMs, routings, purchase prices, and labor or burden expenses; over a certain user-defined period. The period can be any length, up to an entire GL period.

Periodic costing features a range of period-based WIP reports, including production order WIP history, WIP adjustment valuation, and WIP scrap valuation.

Cost Set

The default is Standard.

The name of the cost set storing the general ledger (GL) cost for this item at this site.

The cost set is used to calculate the cost of production and the sales price for the item forecast.

Production Picklist Shortage Update

Filter

The Filter panel contains key information that identifies a picklist number, a site, and an item. You can choose whether to print shortage tags and to update the information.

Picklist Number

A code identifying a picklist, which is used to select a production order to include in the report.

Site

A number identifying the site that the picklist applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Item

A number identifying an item included in the production picklist or manufactured on this production order; either a finished product, intermediate product, or subassembly.

The item can be a co-product, by-product, or base process item.

Print Shortage Tags

Specify whether to print shortage tags for production orders that meet the search criteria and have shortage allocations. The tags are sorted by component.

The default is No.

Update

Specify whether to update the information about production picklist shortage on the report.

The default is No.

Production Picklist Undo

Filter

The Filter panel contains key information that identifies a picklist number and a site. You can also choose to delete the selected picklist.

Picklist Number

A code identifying the picklist, which is used to select a production order to include in the report.

Site

A number identifying the site that the picklist applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Delete Picklist

Specify whether to delete the selected picklist. The default is Yes.

When this field is set to Yes, the system performs the following additional operations:

- Removes all allocations that are associated with the picklist, but not linked with any orders.
- Removes all shortage allocation records associated with the picklist, regardless of whether the records are linked with orders.
- Removes the picklist master record.
- Leaves the detailed order allocation records, if the production order status is A or R and the allocation policy is Detail.

Production Plan

Filter

The Filter panel contains key information that identifies a site, a product line, and a year.

Site

The site that this production plan applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Prod Line

The product line code that this plan relates to.

Product line codes identify major item and product groupings. Every item and product must be assigned to a product line for planning and accounting purposes.

Product lines:

- Group products by similarities of manufacture or application.
- Identify families of products that can be planned in aggregate.
- Associate general ledger accounts with groups of products.
- Are used throughout the system for selecting and reporting inventory, planning, and sales history reports.

Product line planning plans the level of production for a business, balancing the needs of marketing, finance, and manufacturing. Each individual plan for each product line and site is added together and verified against the goals and resources of the whole company.

Year

The year that this production plan applies to.

The system maintains production plans by year, allowing you to keep historical information for developing future plans.

The default is the year 2019.

Productivity By Employee

Filter

The Filter panel contains key information that identifies an employee, an effective date, an item number, a work center, and a machine. You can set a shift, and decide whether to display a summarized or a detailed report. You may also choose whether to include nonmilestone operations, as well as whether to include work orders, repetitive orders, or both.

Employee

A code identifying the person who reports the labor. You must enter an employee code, even if you do not track production by employee code for detailed labor reporting purposes. In this case, set up one employee code and report all labor against that code.

Effective Date

The date used to select operation history records created by repetitive transactions. Records on or after this date will be selected.

Leave blank to include all dates up through the first date for which transactions exist.

Item Number

A code identifying an inventory item associated with this employee.

Item codes identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials.

Work Center

A code identifying the work center associated with this operation labor transaction.

The work center code cannot be left blank.

Machine

A code identifying the machine associated with this operation labor transaction.

The work center code and the machine code together identify a work center—a basic production unit used in manufacturing planning and control.

Shift

Enter the shift of the work center associated with the calendar entry to include in the report. The value for the shift can be blank, 1, 2, 3, or 4. The default is blank.

Shift schedules define how many days a week and how many hours the work center is run.

Summary/Detail

Specify whether to display a summary of the report or a detailed report.

The default is Detail.

Include Nonmilestone Operations

Specify whether to include nonmilestone operations on the report.

The default is No.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both in the report.

The default is Both.

Productivity By Item

Filter

The Filter panel contains key information that identifies an item number, an employee code, an effective date, a work center, and a machine. You can set a shift, and decide whether to display a summarized or a detailed report. You can also choose whether to include nonmilestone operations, as well as whether to include work orders, repetitive orders, or both.

Item Number

A code identifying an inventory item associated with this employee.

Item codes identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials.

Employee

A code identifying the person who reports the labor.

You must enter an employee code, even if you do not track production by employee code for detailed labor reporting purposes. In this case, set up one employee code and report all labor against that code.

Effective Date

The date used to select operation history records created by repetitive transactions. Records on or after this date will be selected.

Leave blank to include all dates up through the first date for which transactions exist.

Work Center

A code identifying the work center associated with this operation labor transaction.

The work center code cannot be left blank.

Machine

A code identifying the machine associated with this operation labor transaction.

The work center code and the machine code together identify a work center—a basic production unit used in manufacturing planning and control.

Shift

Enter the work center shift associated with the calendar entry to include in the report. The shift value can be blank, 1, 2, 3, or 4. The default is blank.

Shift schedules define how many days a week and how many hours the work center is run.

Summary/Detail

Specify whether to display a summary of the report or a detailed report.

The default is Detail.

Include Nonmilestone Operations

Specify whether to include nonmilestone operations on the report.

The default is No.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both in the report.

The default is Both.

Productivity By Work Center

Filter

The Filter panel contains key information that identifies a work center, a machine, an effective date, an item number, and an employee code. You can set a shift, and decide whether to display a summarized or a detailed report. You can also choose whether to include nonmilestone operations, as well as whether to include work orders, repetitive orders, or both.

Work Center

A code identifying the work center associated with this operation labor transaction.

The work center code cannot be left blank.

Machine

A code identifying the machine associated with this operation labor transaction.

The work center code and the machine code together identify a work center—a basic production unit used in manufacturing planning and control.

Effective Date

The date used to select operation history records created by repetitive transactions. Records on or after this date will be selected.

Leave blank to include all dates up through the first date for which transactions exist.

Item Number

A code identifying an inventory item associated with this employee.

Item codes identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials.

Employee

A code identifying the person who reports this labor.

You must enter an employee code, even if you do not track production by employee code for detailed labor reporting purposes. In this case, set up one employee code and report all labor against that code.

Shift

Enter the work center shift associated with the calendar entry to include in the report. The shift value can be blank, 1, 2, 3, or 4. The default is blank.

Shift schedules define how many days a week and how many hours the work center is run.

Summary/Detail

Specify whether to display a summary of the report or a detailed report.

The default is Detail.

Include Nonmilestone Operations

Specify whether to include nonmilestone operations on the report.

The default is No.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both in the report.

The default is Both.

Serial Booking by Production Orders

Serial Booking by Production Orders enables you to reserve serial IDs for a discrete production order.

Filter

The Filter panel contains key information that identifies a serial ID, a production order, an ID, a site, an item number, and a batch. You can set a release date, a due date, a sales or job number, an order status, and a supplier. You may also choose whether to display the report in detail.

Serial ID

The sequence ID that the system uses in the booking. This field cannot be blank.

When only one serial ID is used in the serial hierarchy definition, only this field is displayed.

When several serial IDs are used in the serial hierarchy definition, then this field defaults from the serial ID range at the lowest serialized level, and you can only enter the serial ID used in the serial hierarchy definition.

Production Order

The production order number for which the system books serial IDs.

The production order cannot be a cumulative order, a flow order, a final assembly order, an order with a closed or planned status, or an order with lot control of the item set to S.

ID

Enter the production order ID for which the system books serial IDs.

Site

The site where this production line is located.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these within a specific domain.

Item Number

Indicate the item being manufactured on this production order, either a finished product, intermediate product, or subassembly.

The item can be a co-product, by-product, or base process item.

Batch

Batch is an optional reference field where you enter a batch number to track production orders. One batch number can be assigned to many production orders.

The batch number is stored in the production order master and in transaction history.

Release Date

The date that the production order is scheduled to be released to production.

The system changes the date that you enter here to the actual release date when you release and print the production order.

Due Date

The date that this production order is due to be completed.

This is the date on which you plan to have product available for shipment to a customer or to issue to another manufacturing order.

Sales/Job

A sales or job number for selecting production orders to include in the report.

Sales and job numbers can be referenced on sales orders, purchase orders, work orders, inter-site requisitions, and inventory transactions.

The sales and job number is stored in transaction history, letting you review the progress of activities associated with a particular sales order, contract, or job number.

Order Status

A code identifying the status of production orders. Values can be P, F, B, E, A, R, and C:

1. P (Planned). Created only by MRP and deleted the next time MRP runs. Planned orders can be included in CRP calculations.
2. F (Firm Planned) or B (Batch Input Firm Planned). Orders you enter, or planned orders you firm up. Once firmed, they cannot be changed by MRP. If MRP sees a need to change them, it generates action messages. If you change the quantity on a production order, the quantities of its components and the times for its routing operations are automatically adjusted. If you change a quantity or date on a co-product, by-product, or base process production order; the quantities and corresponding dates are automatically adjusted on the other orders in the joint production order set.
3. E (Exploded). Fix the bill and routing for this production order. Once exploded, a change to the standard bill or routing does not affect the order.

4. A (Allocated). Generally, allocate components in inventory against other work or sales orders.
5. R (Released). All available components are allocated and a picklist can be printed. If a key item is not available, the production order cannot be released. You can process material issues, receipts, and labor feedback against released production orders.
6. C (Closed). No more material can be issued or received against a closed production order. Labor can still be reported. When the status of a joint production order set is set up; current average, current last, and GL average costs are updated. When the status of an order is changed to C, all open requirements for materials, allocations, and work center operations are removed.

Supplier

A code identifying the normal or preferred supplier for this item.

When a production order is entirely subcontracted, the supplier can be recorded on the production order and on the production order routing operation.

Detail

Specify whether to include details of this production order.

The default is Yes.

Subcontract Item Status

Filter

The Filter panel contains key information that identifies an item number, a ship-to ID, a site, a subcontract shipper, a ship date, and a production order ID. You can choose whether to print comments and to show shipped items, as well as to include a summarized or a detailed report.

Item Number

A number identifying a subcontract item being manufactured on this production order, either a finished product or an intermediate subassembly.

Leave this field blank to consider all subcontract items starting with the first.

Ship-to ID

A code identifying the address to which goods are delivered.

Enter the ship-to ID to identify a subcontract item to include in the report.

Site

A number identifying the site to which the subcontractor ships materials.

Enter the site number to identify a subcontract item to include in the report.

Subcontract Shipper

A code identifying the subcontract shipper for selecting an item to process.

Ship Date

The date when the subcontract item is shipped.

Enter a ship date to identify a subcontract item for this report.

Production Order ID

A number identifying the production order on which a subcontracted item is manufactured.

Enter a production order ID to select an item for this report.

Print Comments

Specify whether to display comments entered in the Subcontract Shippers frame when tracking subcontract shippers for items received, returned, or scrapped.

The default is No.

Show Shipped Complete

Specify whether to display subcontract items that are already shipped. The default is No.

No: Display only open subcontract shippers for subcontracted material in transit to and from a subcontractor. Yes: Display both open and closed subcontract shippers.

Detail Report

Choose to display summarized or detailed subcontract shipper data related to subcontract material in transit to and from a subcontractor.

Subshipper Containers

Filter

The Filter panel contains key information to identify a type of report, a ship-from site, and a shipper or container ID.

Type

Indicate what type of information to display on the report—shipper information or container information. This field determines if the ID entered in the Shipper/Container ID field is a shipper ID or a container ID.

The default is Shipper.

Ship-From Site

The site at which this container will be packed and shipped.

All line items for this order are assigned to the ship-from site.

Shipper/Container ID

Specify a number identifying a shipper or container record.

Along with the ship-from site, the shipper/container ID uniquely identifies a shipper or a container record.

Shipper records represent shippers being prepared for shipment. Additionally, content information—the product being sold or container records—is assigned to shipper records.

Container records represent containers being prepared for shipment. Additionally, you can assign content information to container records. Contents can be either the product being sold, or can be subcontainers, such as cardboard boxes, that are packed onto a pallet.

WIP Adjustments Analysis

Filter

The Filter panel contains key information that identifies an ID, an item number, a site, a production line, an adjustment reason, a work center, a machine, a department, a shift number, an employee, and an effective date. You can choose whether to include work orders only, repetitive orders only, or both on the report.

ID

A unique code used to select a production order for this report.

Item Number

A number identifying an item, which is used to select a production order for report.

Items can be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Site

A number identifying a place where inventory is manufactured or stored such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Production Line

A code identifying a production line for this report.

Production lines identify a series of work centers and machines, normally dedicated to the manufacture of a specific number of products or families. Different production lines can be defined at each site.

Adjustment Reason

A code identifying a reason type for explaining why adjustments have been made for WIP.

Enter the adjustment reason to select a production order for this report.

Work Center

A code identifying a work center for this report. The work center code cannot be left blank.

The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control. Work centers identify individual machines, groups of similar machines, or subcontract suppliers.

Machine

A code identifying a work center machine for this report.

Department

A code identifying the department to which the selected work center and machine belong. Department codes identify major groupings of manufacturing work centers, in your own facility or at outside suppliers.

Enter a department number for this report.

Shift

A code identifying the work shift associated with this calendar entry.

The default is blank.

Employee

The employee code of the person reporting the labor.

Enter an employee number to select a work center to process.

Effective Date

The date used to select the history records of WIP adjustments.

Records that have an effective date on or after this date are selected.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both in the report.

The default is Both.

WIP Lot Convert Transactions

Filter

The Filter panel contains key information that identifies an effective date, a time, a site, a production order, an ID, an operation, a production line, a purchase order, an item number, a lot or serial number, and a reference. You can choose whether to include consumed items, produced items, consumed WIP items, or produced WIP items.

Effective Date

The date used to select operation history records created by repetitive transactions to include in this report.

Records are selected that have an effective date on or after this date.

Leave blank to begin with the first date for which transactions exist.

Time

Enter a range of hours to include on this report.

Leave at 00:00 to begin with the earliest hour.

Site

Enter a the range of sites to include on this report.

Leave blank to begin with the first sequential site in the table.

Production Order

A number identifying a production order to process.

The production order number and lot ID together identify a specific production order. The same production order can be used with different lot IDs.

ID

Enter a range of discrete or cumulative IDs to include in the report.

Leave blank to begin with the first available discrete or cumulative ID.

Produced By Op

Enter a range of operations that should be displayed on this report.

Leave blank to begin with the first operation.

Production Line

A code identifying a production line for which you want items set up for this operation transaction.

Purchase Order

Enter a range of purchase orders to include on this report.

Leave blank to begin with the first available purchase order.

Item Number

Enter a range of item numbers to include on this report.

Leave blank to begin with the first available item number.

The item selection range applies only to what is consumed and produced. It does not include the parent item.

Lot/Serial

Enter a range of lot or serial numbers to include on this report.

Leave blank to begin with the first available lot or serial number.

Reference

Enter a range of references to include on this report.

Leave blank to start with the first sequential reference in the table.

Note This applies only to component material. References are not traced for WIP material.

Include Consumed Items

Specify whether to include consumed items (component material) on this report.

The default is Yes.

Include Produced Items

Specify whether to include produced items (finished material) on this report.

The default is Yes.

Include Consumed WIP

Specify whether to include consumed WIP material on this report.

The default is Yes.

Include Produced WIP

Specify whether to include produced WIP material on this report.

The default is Yes.

WIP Lot Non-Convert Transactions

This report shows operation history data that references WIP lot and serial numbers, but does not include records where material was converted.

Filter

The Filter panel contains key information that identifies an effective date, a time, a site, an item number, a production order, an ID, an operation, a production line, a lot or serial number, a reference, and a reason. You can choose whether to include scrap, adjustments, rejects, and rework.

Effective Date

Enter a range of effective dates to display on this report.

Leave blank to begin with the first available effective date.

Time

Enter a range of hours to display on this report.

Leave at 00:00 to begin with the earliest hour.

Site

Enter a range of sites to display on this report.

Leave blank to begin with the first sequential site in the table.

Item Number

Enter a range of item numbers to display on this report.

Leave blank to begin with the first available item number.

The item selection range applies only to what is consumed and produced. It does not include the parent item.

Production Order

A number identifying a production order to select WIP lot records to process.

ID

Enter a range of discrete or cumulative IDs to display on this report.

Leave blank to begin with the first available discrete or cumulative ID.

Produced By Op

Enter a range of operations to display on this report.

Leave blank to begin with the first operation.

Production Line

A code identifying a production line for which you want items set up for this operation transaction.

Lot/Serial

Enter a range of lot or serial numbers to display on this report.

Leave blank to begin with the first available lot or serial number.

Reference

Enter the beginning of the range of references to display on this report.

Leave blank to start with the first sequential reference in the table.

Reason

A code identifying a reason type to display on this report.

Include Scrap

Specify whether to include scrap transactions on this report.

The default is Yes.

Include Adjustments

Specify whether to include adjustment transactions on this report.

The default is Yes.

Include Rejects

Specify whether to include reject transactions on this report.

The default is Yes.

Include Reworks

Specify whether to include rework transactions on this report.

The default is Yes.

WIP Lot Trace

This report enables you to monitor and trace work-in-process (WIP) inventory at each operation in the manufacturing process easily and accurately.

Filter

The Filter panel contains key information that identifies a trace direction, a material type, an item number, a production order, a lot or serial code, and a reference. You can select lots according to their IDs and operation numbers, and decide the item levels to trace.

Trace Direction

Specify a trace direction to trace a WIP lot for this report.

The default is trace As Built.

Material Type (Item/Wip)

Specify a material type, either an item or a work in process, to trace a WIP lot for the report.

The default is Item.

Item Number

A number identifying an item being manufactured on this production order, either a finished product or an intermediate subassembly.

Enter an item number to trace the item for this report.

Production Order

A code identifying a production order for this report.

Produced By ID

A unique code identifying a lot ID.

The production order number and lot ID together identify a specific manufacturing order.

Produced By Op

A number identifying a step within a specific routing used to trace an item for this report.

Lot/Serial

A number used to trace WIP material throughout the manufacturing process, including WIP material processed by multiple subcontractors.

Reference

The reference number is used to identify the specified item quantity.

For example, this can be the production lot of the item or a location reference such as a pallet number.

Reference numbers are optional.

Levels

A value from 1 to 99 identifying the levels of parent and component relationships. The default is level 99.

If set to 1, the system copies the items directly related to this level in a parent and component relationship.

Enter 0 (zero) to copy all components related to this parent, including lower-level assemblies and raw materials.

WIP Status

Filter

The Filter panel contains key information that identifies an ID, an item number, a site, a production line, and an end effective date. You can choose whether to include work orders, repetitive orders, or both on the report.

ID

A code identifying a lot ID to select cumulative orders for this report.

Item Number

A number identifying an item being manufactured on this production order, either a finished product or an intermediate subassembly.

Enter the item number for this report.

Site

A number identifying the site that this production order applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Production Line

A code identifying a sequence of work centers at a site, through which manufacturing operations are completed.

Enter a valid production line to select a production order for this report.

End Effective

The date a production order is due to be completed.

Enter the end effective date to select cumulative production order records. Records with end effective dates on or before this date are selected.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both on the report.

The default is Both.

Work Center Dispatch

This report allows shop floor personnel to view current and future work for their work centers.

Filter

The Filter panel contains key information that identifies a site, a work center, a machine, and a production line. You can choose to sort by work center or shift and to set the window days. You may also decide whether to add page breaks for each work center and whether to include work orders, repetitive orders, or both on the report.

Site

A number identifying the site this work center applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Work Center

A code identifying a work center for this report. The work center code cannot be left blank.

The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control.

Work centers identify individual machines, groups of similar machines, or subcontract suppliers. Work centers are used throughout the system for planning and reporting. Each operation must reference a work center.

Machine

A code identifying a machine in the work center for this report.

The machine number is not always required. Work centers with several different machines are also typically set up using a common work center code and different machine codes.

Production Line

A number identifying a production line associated with the work center.

Sort By

Specify whether to sort the work centers by shift or by item.

The default is WC/Shift.

Window Days

Specify the number of days from today that the report uses to build the list of work order operations. The report will add the Window Days to

today's date and include all open work order operations that should be started before that date.

The default is 3.

Page Break on Work Center

Specify whether to add page breaks between work centers.

The default is Yes.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both on the report.

The default is Both.

Work Center Utilization

This report allows you to identify bottlenecks or underused work centers and shows how the hours in the work day are being used.

Filter

The Filter panel contains key information that identifies a site, a work center, a machine, and an effective date.

Site

A number identifying a site, which is used to select a work center for this report.

Work Center

A code identifying a work center for this report.

The work center code cannot be left blank. The work center code and the machine code together identify a work center, which is a basic production unit used in manufacturing planning and control.

Work centers identify individual machines, groups of similar machines, or subcontract suppliers. Work centers are used throughout the system for planning and reporting.

Machine

A code identifying a work center machine for this report.

The machine number is not always required. Work centers with several different machines are also typically set up using a common work center code and different machine codes.

Effective Date

Specify the effective date for selecting work center records.

If this field is left blank, all operations are included. If a date is specified, only those records effective on this date are included.

Zero Open Qty Order Close

Filter

The Filter panel contains key information that identifies a site, a production line, a production order, an ID, and an item number. You can choose whether to include orders with a negative open quantity; to include work orders, repetitive orders, or both; and to include Kanban items on the report. You can also decide whether to update the order status.

Site

A number identifying the site that an ordered item applies to.

Site codes identify areas where inventory is manufactured or stored such as an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Production Line

A code identifying a sequence of work centers at a site, through which production can advance for the completion of manufacturing operations.

Enter a number to identify an item for this report.

Production Order

A number identifying a production order, which is used to select an item for this report.

The production order number and lot ID together identify a specific production order. The same production order can be used with different lot IDs.

ID

A unique code identifying a lot ID.

The production order number and lot ID together identify a specific manufacturing order.

Item Number

A code identifying the item required for this planned order.

Include Orders with Negative Quantity Open

Specify whether to display planned orders with a negative item quantity on the report.

The default is Yes.

Include WO/Rep/Both

Specify whether to include discrete production orders only, repetitive production orders only, or both on the report.

The default is Both.

Include Kanban Items

Specify whether to include planned orders for Kanban items.

The default is No.

Update

Specify whether to update and review changes in planned order information.

The default is No.

Recalculate Method Variance

Recalculate Method Variance View

Settings Panel

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Panel

The Filter panel which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Production Order

Optionally, enter the Production Orders that you want to recalculate the method variance for. Leave blank to include all Production Orders.

ID

Optionally, enter the Production Order IDs that you want to recalculate the method variance for. Leave blank to include all Production Orders.

Item

Optionally, enter the Items that you want to recalculate the method variance for.

Site

Optionally, enter the Sites that you want to recalculate the method variance for.

Update

- Select **Yes** to run the program in update mode and update records in the database.
- Select **No** to run the program in simulation mode without updating the database.

To generate the report click **Run**.

Subcontract Shippers

ou can then print the shipper using Subcontract Shipper Print. Confirming the shipper using the Confirm action in Subcontact Shippers registers the transfer of materials to the subcontractor.

When you confirm the shipper, work in process, inventory, and financial effects occur. Subcontract Shippers only sets up the shipper.

Life Cycle

The subcontract life cycle includes the following steps:

1. Use Subcontract Shippers to create shippers for shipments to subcontractors.
2. Print the shipper with Subcontract Shipper Print.
3. Confirm the shipper with the Confirm action in Subcontract Shippers. When you confirm the shipper, work in process, inventory and financial effects occur.
4. Receive shipments from subcontractors using Purchasing functions.
5. Display status and history of items sent to and received from subcontractors using Subcontract Item Status Report.

Subcontract Shippers View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the subcontract shipper you are working on, including the shipper, ship-from, ship-to, status and inventory movement code. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Ship-From

Enter the site at which this shipment will be packed and shipped.

Ship-To

Enter the subcontractor address to which this shipment is to be delivered.

Modification of this field is allowed only if this record does not have any contents assigned, and if this record is not assigned as contents of another shipper.

Shipper

Displays an autogenerated shipper number. This field is read-only.

Along with the Ship-From site, Shipper uniquely identifies a shipper record.

Shipper records represent shippers being prepared for shipment. Additionally, content information -- the product being sold -- is assigned to shipper records.

Defaults to the last accessed shipper record, or if left blank, defaults to the next shipper number in Customer Schedules.

Status

Select the current status of the shipper. You can assign an Unconfirmed, Canceled or In-Transit status.

Note To change the status to Confirmed, use the Confirm action in Subcontract Shippers.

Ship Date

Ship date defaults from the system date.

Cancel Date

If the user cancels the Subcontract Shipper, this field defaults to the system date on which the cancellation occurs. Otherwise, the field is blank.

Shipping Group

The shipping group associated with the transfer transaction.

Shipper Options Subpanel

Document Format

The document format used to print this shipper. The document format must be a valid format of a type applicable to shippers. This value defaults from the setting in Shipping Groups and then if not defined, it defaults from Logistics Control.

Consolidate

Specifies if consolidating shipments with an existing unconfirmed shipper is prohibited allowed or optional.

Inventory Movement Code

The inventory movement field for the shipment. It is mandatory if Require Inventory Movement Codes is checked in the Logistics Control > Customer Scheduled/Shipper Subpanel.

The code entered must exist in the shipping group inventory movement detail table, and you must have access granted per Site/Inventory Movement Security.

If you select an existing shipper, the system overwrites any value entered in this field with the value from the selected shipper. You cannot edit an inventory movement code on an existing record.

The default is the value assigned for the transaction type in the shipping group.

Language

The language for the shipper, which defaults from the setting in Domains.

Subcontract Shipper Lines Panel

Click on Details to access the **Subcontract Shipper Lines** view, where you can create and edit lines from the subcontract shipper.

You can move lines to change the hierarchy by using the Drag & Drop functionality.

Main Subpanel (Subcontract Shipper Lines)

Effective Date

Enter the effective date of the transaction. Defaults to the system date. The system searches open cumulative orders that pertain to the effective date.

Item

Enter the item to be shipped to the subcontractor.

Operation

Enter the number of the subcontract operation on the routing for this item.

Production Line

Enter the production line on which the item is manufactured.

BOM Code

Enter the BOM code for the items being shipped.

ID

Enter the ID of the production order associated with the items being shipped.

Routing

Enter the routing code for the items being shipped.

Subcontract Shipper Line Options Subpanel (Subcontract Shipper Lines)

Multientry

Indicate whether this transaction references multiple sites, locations, lot number, serial numbers, or lot reference numbers.

- Unselected: This transaction is processed using values you enter on this screen.
- Selected: Another entry screen displays letting you enter multiple lines for this transaction. The system creates an individual transaction history record for each transaction line. The total of all lines is used to update the inventory balance.

Inventory Details Subpanel (Subcontract Shipper Lines)

Site

Enter the site from which the subcontract material will be shipped.

Location

Enter the location of the items to be shipped.

Quantity

Enter the quantity of the items being shipped to the subcontractor.

Lot/Serial

Optional. Enter the lot/serial number for the items shipped on this subcontract shipper if items are tracked by lot or serial number.

Reference

Enter the optional lot reference number for the items shipped on this subcontract shipper.

WIP Item

The system displays the WIP item number indicated in the routing operation.

UM Conversion

Displays the unit of measure conversion for the item.

WIP Lot Trace Panel

WIP Lot Trace is enabled when:

- For all Production Orders: When Enable WIP Lot Trace and Trace Parents are both selected in the WIP Lot Trace Control view.
- For a Production Order and the operations routing:

- If in WIP Lot Trace Control the Enable WIP Lot Trace checkbox is selected, but Trace Parents is not. WIP Lot Trace Control is still active if a routing exception record exists for that Production Order's routing with Trace Parents enabled.
- If Lot Start Trace Operation is zero, all operations are WIP Lot Trace controlled. If Lot Start Trace Operation is not zero, only that operation ID and all subsequent operations in the routing are WIP Lot Trace controlled.

Autofill (Button)

If you select the Autofill button, the system populates the grid with the WIP Lots from the operation being reported.

Select Checkbox

Select this checkbox to manually select the record to assign a quantity to consume.

Note If Combine WIP Lots in WIP Lot Trace control is unselected, only one WIP Lot can be selected in the grid.

Lot/Serial

Enter the lot or serial number. This field is mandatory.

Note If you select the Autofill button, this field is disabled.

Reference

Enter the reference number. This field is mandatory when Trace Reference in WIP Lot Trace Control is selected.

Quantity

By default this field should be zero. If you click the Autofill button, this field defaults to WIP Lot Quantity.

Carrier Panel

This panel displays the list of carriers that were set up in Shipping Groups for the associated inventory movement code. If necessary, you can add a carrier to the grid by clicking New.

Sequence

This field indicates the order in which the various carriers handle shipments. The Ship-From site of a shipment turns over possession to the first carrier, which may later turn over possession to a second carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

Carrier

The carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name

Displays the name of the Carrier as defined in **Carriers**.

Ship Via

Enter a code identifying the carrier responsible for this shipment. This field is mandatory. By default, this field is blank.

Terms of Trade Point

Enter the terms of trade point for this shipment. The terms of trade point identifies when title passes to the buyer from the seller, as well as who pays shipping. By default, this field is blank.

Mode of Transport

Enter the mode of transport for the shipment such as air or sea. This field is for reference only. By default, this field is blank.

Carrier Shipment Reference

Enter a shipment reference number supplied by the carrier such as a bill of lading number, carrier tracking number, or packing slip number. By default, this field is blank.

Vehicle ID

Optionally, enter an identifier representing the carrier's vehicle. This field is for reference only. By default, this field is blank.

Payment Type

Specify the payment type. Use Payment Type and Carrier Account to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Carrier Account

Specify the carrier account code. Use Carrier Account and Payment Type to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Total Pallets

Enter the number of pallets or skids included in this shipment. This value is for reference. It prints on shipping documents and bills of lading.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the subcontract shipper.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the subcontract shipper.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Trailer Notes

On the **Trailer Notes** panel, you can add, edit, and delete trailer notes attached to the subcontract shipper.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the trailer note attached to the subcontract shipper.

Reference

Select a reference for the trailer note.

Language

Select a language for the trailer note.

Type

Select the document type for the trailer note.

Creating Subcontract Shippers

1. Go to **Subcontract Shippers**.
2. Click **New**.
3. Complete the fields described in Subcontract Shippers View on page 3821.
4. Click **Save** to create the new record.

Modifying Subcontract Shippers

1. Go to **Subcontract Shippers**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Subcontract Shippers

1. Go to **Subcontract Shippers**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.

Quality

Quality includes the Quality Orders hybrid view.

Quality Orders

A quality order is a document of record for an item lot or sublot and its attribute values. There are two types of quality orders:

- **Quality Order (Lot Type).** A quality order (lot type) is a document of record that allows users to verify and maintain attribute values for an item lot or sublot.
- **Quality Order (Quality Type).** A quality order (quality type) is the same as a quality order (lot type) except that the quality order (quality type) contains test records with test record attributes. A quality order (quality type) directs a user to complete the testing and inspection of an item lot or sublot. This type of order can be used to test, retest, inspect, re-inspect, or audit an item lot or sublot to confirm its conformance to one or more test specifications.

The two types of quality orders are similar in the following ways:

- Both contain lot and sublot attribute values.
- Both update the lot master with values for lot and sublot level attributes.
- Both provide the basis for printing certificates of analysis.

The following are differences between the two types of quality orders:

- A quality order (lot type) can only contain attributes from an Item Attribute Profile while a quality order (quality type) can contain attributes from an Item Attribute Profile and a Test Specification.
- A quality order (quality type) contains an associated test record with test record attributes. A quality order (lot type) does not contain an associated test record.

Quality Orders for an Item Sublot

Quality Orders provides sublot functionality so that users can create quality orders for an item lot and sublot and then record attributes from the lot level down to a sublot level.

Lot-level attributes are attributes that apply to an entire item lot. For example, if you receive Olives, a lot-level attribute could be Country of Origin. In this case, the entire lot would be from the same country of origin. A sublot-level attribute for Olives could be Color because within that Lot of Olives, the color could vary between each sublot. For more information about the Level parameter, see the Level field definition in **Item Attribute Profiles**.

To use sublot functionality in **Quality Orders**, the following must be set up first:

- The Use Inventory Reference as Sublot option must be selected in the **Inventory Control** > Item Attributes panel. When this option

is selected, when items are received into inventory, the sublot information can be recorded in the Reference field.

- There must be sublot-level attributes defined in **Item Attribute Profiles**. Using the previous example of Olives, the Item Profile for Olives must have a sublot-level attribute set up for Color.

Set the level to Sublot when the value for the attribute is specific to an item, a lot, and an inventory detail reference and the attribute is a characteristic of a lot master and sublot. Like lot-level attributes, you can define the default value and specifications of sublot-level attributes to determine if an item and a lot are conforming or non-conforming.

The use of sublot-level attributes should be restricted to implementations where the inventory reference field is used to always identify a sublot. Sublot-level attributes should not be used when the reference field is used to identify objects such as a pallet, container, shelf, or location, or when there is an integration with QAD Warehousing.

Creating Quality Orders from Receipt Transactions

Quality orders (lot and quality type) can be automatically created when you receive items from a supplier and perform purchasing receipt transactions. The quality orders (lot and quality type) that are created from PO receipt transactions apply to a specific purchase order or scheduled order line. For more information about quality orders for purchasing, see Item Supplier Profiles on page 2775 and Purchase Order Line Profiles on page 2784.

When performing the receipt transaction, a quality order (lot type) is created when:

- The item being received has an associated item profile but does *not* have an associated test specification,

  And...

- During the receipt transaction, the user does *not* enter all the Required attributes.

  Note If the item's associated item profile contains any System-level attributes, a quality order (lot type) is created, whether or not you enter all the required attributes.

A quality order (quality type) is created when the item being received has an associated test specification (in Released status). A quality order (quality type) is created whether or not you enter all the attributes during the receipt transaction.

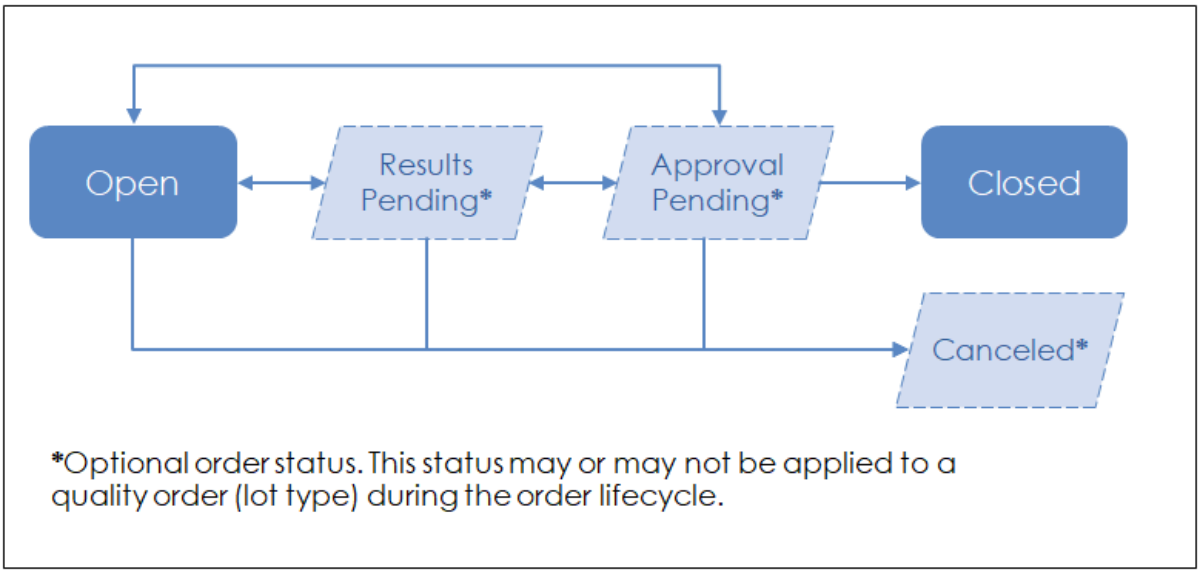
The following purchasing receipt transactions can be used to receive an item and automatically generate a quality order (lot and quality type):

- **Purchase Orders** > Receive Order action. For more information, see Receive Purchase Order Action on page 4522.

- **PO Shippers** > Confirm action. For more information, see PO Shippers on page 4971.
- **Production Orders Reporting** > Receive Order action. For more information, see Receive Order Action on page 3773.
- **Production Operations Reporting** > Receive Order action and Report Operation Activity action. For more information, see Receive Order Action on page 3693 and Report Operation Activity Action on page 3594.

Quality Order Lifecycle

Use the Quality Orders action menu to move the quality order through its lifecycle.

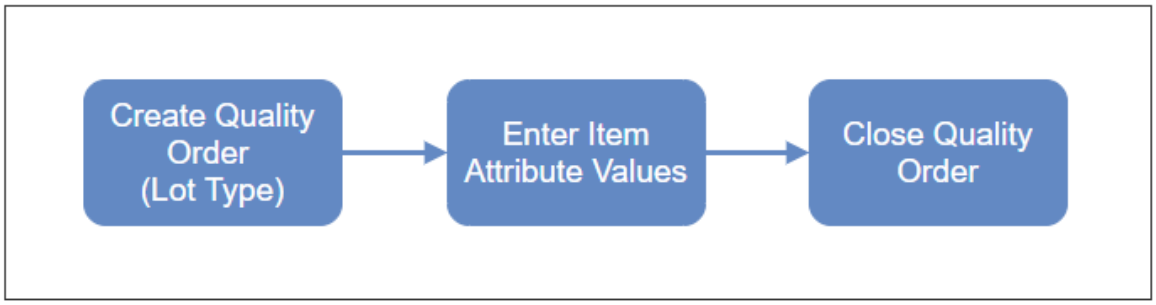


For more information about each status, see the Order Status field description.

For more information about moving a quality order through its lifecycle, see:

- Open Action on page 3854
- Move to Results Pending Action on page 3853
- Route For Review Action on page 3854
- Cancel Action on page 3864
- Close Action on page 3855
- Edit Closed Order Action on page 3864

Processing Quality Orders (Lot Type)



You can enter attribute values for a quality order (lot type) in the following ways:

- **Unplanned Receipts.** Enter item attribute values for a lot or sublot using the Receive Unplanned action in **Inventory Detail**. The system allows you to enter attributes for single or multiple items and for items that have multiple lot/serials.

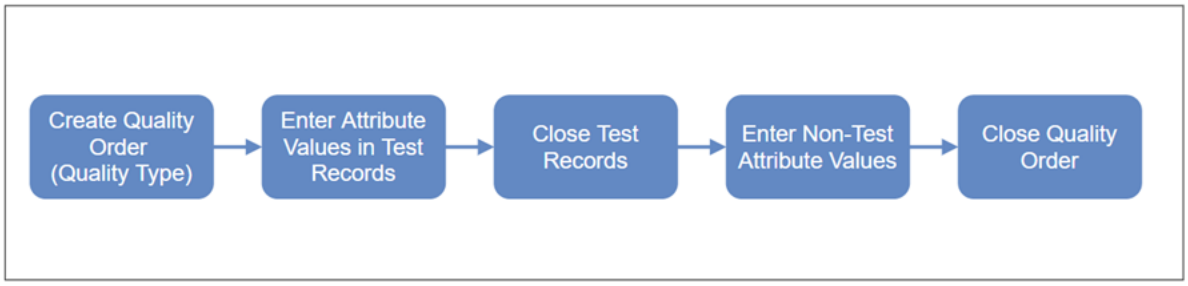
  Note Values can be entered for attributes configured with Level = Lot or Sublot and Input Method = User. Attributes configured with Input Method = System must be entered using a quality order.

- **Quality Orders > Attributes Panel.** Enter item attribute values in the Attributes panel. The attributes displayed in the Attributes panel are attributes associated with the Item Attribute Profile.

Follow these steps to process a quality order (lot type):

1. Create a quality order (lot type). See Creating a Quality Order for Inventory on page 3869.
2. Inspect the item lot or sublot and enter the item attribute values:
   a. Optionally, set the status of the quality order to Results Pending to indicate that the item lot or sublot is being inspected. See Move to Results Pending Action on page 3853.
   b. Enter the item attribute values in the Attributes panel. See Entering Attribute Values on page 3870.
   c. After the item lot or sublot has been inspected and all the attribute values have been entered, optionally use the Route for Review action and submit the quality order to be reviewed. See Route For Review Action on page 3854.
3. Close the quality order. See Close Action on page 3855.

Processing Quality Orders (Quality Type)



You can enter attribute values for a quality order (quality type) in the following ways:

- **Unplanned Receipts.** Enter item attribute values for a lot or sublot using the Receive Unplanned action in **Inventory Detail**. The system allows you to enter attributes for single or multiple items and for items that have multiple lot/serials.

  Note Values can be entered for attributes configured with Level = Lot or Sublot and Input Method = User. Attributes configured with Input Method = System must be entered using a quality order.

- **Quality Orders > Attributes Panel.** Enter non-test record attribute values in the Attributes panel. The attributes displayed in the Attributes panel are attributes associated with the Item Attribute Profile and the Test Specification.

- **Quality Orders > Test Records Panel.** Enter test record attribute values in the Test Records panel. The attributes displayed in the Test Records panel are attributes associated with the Test Specification.

Follow these steps to process a quality order (quality type):

1. Create a quality order (quality type). See Creating a Quality Order for Inventory on page 3869.
2. Perform the associated quality tests:
   a. Optionally, set the status of the test records to Results Pending to indicate the quality tests are in process. See Test Records - Move to Results Pending Action on page 3865.
   b. Enter the test attribute values in test records. See Entering Test Record Attribute Values in Test Records Grid on page 3872 or Entering Test Record Attribute Values in Details Screens on page 3872.
   c. After all the quality tests are completed and all the attribute values have been entered, optionally use the Route for Review action and submit the test record to be reviewed. See Test Records - Route For Review Action on page 3866.
   d. Close the associated test records. See Test Records - Close Action on page 3867.

3. Enter non-test record attributes in the Attributes panel. See Entering Attribute Values on page 3870.
4. Close the quality order. See Close Action on page 3855.

System Views

Quality Orders provides the following system views:

- **Quality Orders.** View and maintain quality orders (lot or quality type). Shows all quality orders in the system.
- **Quality Orders for Purchasing.**View and maintain quality orders (lot or quality type) for purchase order receipts. Shows all the quality orders created by purchase receipts.
- **Quality Orders for Production.**View and maintain quality orders (lot or quality type) for production order receipts. Shows all the quality orders created by production order and CUM order receipts.
- **Quality Orders for Sales.**View and maintain quality orders (lot or quality type) for shipment of sales inventory. Shows all quality orders for a sales order line.

  Note You must run the September 2020 version (or later) of the Sales App with the Quality Orders App; otherwise, sales line data does not display in the Source panel when you are in the Quality Orders for Sales view.

Main

Order Source

Select whether the quality order (lot or quality type) is created for item lot or sublot in inventory or for sales. By default, this field is set to Inventory.

- **Inventory (default).** Select this option to create a quality order (lot or quality type) for an item lot or sublot in inventory.
- **Sales.** Select this option to create a quality order (lot or quality type) for a shipment of sales inventory. When selected, click Select Order to select the sales order and line to be associated with this quality order.

Item

The item number associated with the quality order.

Order Type

The type of quality order:

- **Lot Type.** A lot type quality order is a document of record for an item lot or sublot and its attribute values. Lot type orders provide the capability to verify and maintain values for attribute values for an item lot and sublot. When a new quality order is created, by default the order type is set to Lot.

- **Quality Type.** Quality type orders are the same as lot type orders except that the quality type orders contain test records with test record attributes.

Site

The site associated with the item lot/serial on the quality order.

Lot/Serial

The lot/serial number of the item on the quality order.

Sublot

The sublot number of the item on the quality order. This field is only used when you select the Use Inventory Reference as Sublot option in **Inventory Control** > Item Attributes panel.

Order

Enter the unique identifier for the quality order or leave this field blank.

Note If blank, the system creates a number based on the Quality Order Sequence ID or the Lot Attribute Order Sequence ID setting in **Quality Control**.

Order Status

Displays the status codes for the quality order (lot type):

- **Open.** The initial status for a quality order. The status should be Open if the values for order attributes have not been entered or have not been fully completed. When the status is Open, modifications can be made to the order data, and orders that were manually created can be deleted.
- **Approval Pending.** This status indicates that attribute values have been completed and that the test records are canceled or closed, but that the material disposition and final approval for the order itself are still outstanding. When the status is Approval Pending, modification to quality order attributes and test record attributes are not permitted and there are no automatic changes to the lot quantity when processing additional receipts for the same lot.

  Users can change the Reference and Remarks fields for order attributes. For test records, users can change the Remarks field. Other modifications to the quality order record itself are permitted, including changing the order status to Open or Results Pending.
- **Results Pending.** This status indicates that the results have not been fully completed for all the attributes on the quality order. In this status, the order quantity is not automatically updated by receipts for the same item and lot. All other modifications are permitted, including changing the order status to Open.

- **Closed.** This status indicates that all of the information for the quality order and its attributes has been approved and the order is closed. When the order status is changed to Closed, the system updates the item lot attributes to those recorded on the order.

  When the status is Closed, there can be no further modifications to the order or test records, including its status. Only the Remarks field on the order and test record can be updated. The order status must be closed to create and print a certificate of analysis using the attribute values and specifications on the quality order.
  To close a quality order, the following conditions must be met:

  - All values must have been entered for item attributes that have the Required setting enabled.
  - For quality orders (quality type), the associated test records that have the Required setting enabled must be closed or canceled.
  - You cannot close a quality order (quality type) if the Order Result is Inconclusive or No Data. If you close a quality order (quality type) when the Order Result is Inconclusive or No Data, the system displays the following message: "The order cannot be closed. Either the Order Result is Inconclusive or No Data. Use Cancel action instead."

- **Canceled.** Set the status to Canceled if no activity is required or performed for the quality order. When the status is Canceled, users can only update the Remarks field on the quality order and test record.
- If a quality order is closed, it can only be maintained using the Edit Closed Order action. A certificate of analysis cannot be printed for a quality order while it is being modified for corrections.

Order Result

The result of the quality order, which is automatically updated as values for its attributes are entered.

- **Not Entered.** The initial result for a quality order, when none of the attributes have values that have been entered.
- **Conforming.** The result for a quality order when all of the attribute specifications (Validation = Yes) have conforming attribute values and all of the attributes (Required = Yes) have been entered.
- **Non-Conforming.**The result for a quality order when any of the attribute specifications (Validation = Yes) have non-conforming attribute values and all of the attributes (Required = Yes) have been entered.

- **Incomplete.** The result for a quality order when some of the attribute values have been entered and there is at least one attribute value (Required = Yes) that has not been entered.
- **Inconclusive.** The result for a quality order when the attribute value has been manually set to inconclusive. This result is used when the test results or the value of the attribute were inconclusive or there was no data.

Order Quantity

Enter the lot quantity for the quality order. When there are multiple receipts for a production order, purchase order, or item lot and the quality order status is Open, the order quantity is updated automatically by receipt transactions.

Total Quantity Retained

The quantity on the quality order that will be retained at a specified location. Items that are retained are typically held for future retesting.

Note When closing the quality order, you can update the retained quantity in the Close screen and specify the location where the lot quantity will be transferred to. When the quality order is closed, the system performs an inventory transfer transaction to move the lot quantity to its destination location.

Total Quantity Destroyed

Enter the lot quantity that was destroyed (scrapped) from the quality order. Items that are destroyed are typically from destructive testing.

Note When closing the quality order, you can update the destroyed quantity in the Close screen. When the quality order is closed, the system performs an inventory scrap transaction.

Remarks

Optionally, enter any remarks in this field.

Assay %

Enter the assay% for the inventory lot. This usually identifies the percent solution. When the quality order is closed, the system updates the assay% on the inventory detail record.

Grade

Optionally, enter the grade for the inventory lot. This usually identifies the quality or physical properties. When the quality order is closed, the system updates the grade on the inventory detail record.

Expire Date

Enter the expiration date of the inventory lot. When the quality order is closed, the system updates the expire date for the inventory detail from the value on the lot attribute order.

Manufacture Date

Enter the manufacture date of the inventory lot. When the quality order is closed, the system updates the manufacture date for the inventory detail from the value on the quality order. When the specification for an attribute is calculated from the Manufacture Date, the value for Manufacture Date is modified, and the order status is not Closed or Canceled, the system determines whether the value for a date attribute is conforming or nonconforming.

Effective Date

Displays the effective date, which determines when the general ledger (GL) Inventory account balance is updated. It has no effect on the inventory quantity-on-hand update, which always occurs immediately.

The default effective date is the system date but you can modify it as needed. The system verifies that the effective date is within an open fiscal period.

Open Date

The date that the quality order was created.

Material Disposition

Enter or select the generalized code value that best describes the material disposition of the item lot. Generalized code values are set up using **Generalized Codes** for field name ql_mtl_disposition.

Disposition Date

Enter the date that the material disposition was applied to the order for the item lot.

Completed Date

The date that the attribute values were completed.

Completed By

Enter the employee identifier of the person who recorded the values for the quality order.

Approval Date

The date the quality order was approved.

Approved By

Enter the employee identifier for the person that reviewed and approved the contents of the quality order.

Test Records

The Test Records panel displays a list of test records associated with a quality order (quality type). A test record is the collection of attributes associated with a certain test specification.

In the grid, each test record is displayed in the parent row, which can be expanded to show the child row displaying the attributes associated with the test record. When viewing the test attribute (child) rows, you can quickly see which attribute values have been entered and which attributes are conforming, non-conforming, inconclusive, and so on.

The test record (parent) row displays important information about the test record, such as:

- The current status of the test, such as Open, Closed, Approval Pending, and so on
- The result of the test, which indicates if the items being tested conform or do not conform to the attribute specifications

This row is important because it allows you to enter information about the test being performed, such as:

- The item quantity that is being tested
- The item quantities that have been accepted, rejected, or destroyed during the test
- Material disposition information
- The employee IDs of the people who conducted the test and who verified the test results

The test attribute (child) row displays important information about the attribute associated with the test record such as Attribute ID, Attribute Description, Measurement, Specification details, and so on. The read-only information displayed in this row reflects the attribute details defined in Test Specifications.

This row is important because it allows you to enter the attribute values as you perform the quality tests. It then displays whether the attribute values conform to the attribute specifications.

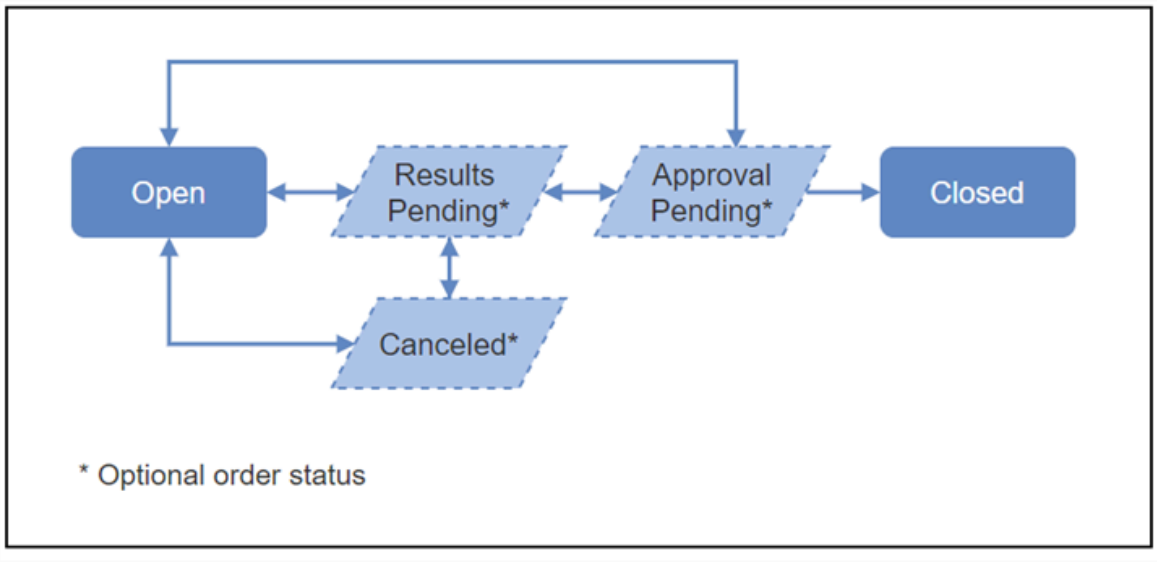
Entering Test Record Attributes and Item Test Quantities

In the Test Records panel, you can enter attribute values and item test quantities in the following ways:

- In the Test Records grid. See Entering Test Record Attribute Values in Test Records Grid on page 3872.
- In the Test Records Details screens. See Entering Test Record Attribute Values in Details Screens on page 3872.

Test Record Lifecycle

Use the Test Record action menu to move the test record through its lifecycle.



For more information about each status, see the Test Status field description.

For more information about moving a test record through its lifecycle, see:

- Test Records - Open Action on page 3866
- Test Records - Move to Results Pending Action on page 3865
- Test Records - Route For Review Action on page 3866
- Test Records - Cancel Action on page 3868
- Test Records - Close Action on page 3867

Test Record (Parent) Row

Test

The unique identifier for the test specification. If you are adding a test to the quality order, select or enter the test ID for which you want to maintain results.

Description

The description of the test specification. The description applies to a test ID, regardless of its revision.

Revision

The revision number for the test specification. The test ID and the revision for a test specification uniquely identify the attributes and specifications for a test specification.

Category

The category associated with the test specification.

Test Record

The test record ID, a unique identifier that is automatically generated by the system.

Test Status

The status of the test record:

- **Open.** The initial status for a test record. The status should be Open if the values for test record attributes have not been entered or have not been fully completed. When the status is Open, you can make any modifications to test record data.
- **Results Pending.** This status indicates that the results have not been fully completed for all the attributes. All other modifications are permitted, including changing the test record status to Open.
- **Approval Pending.** The Approval Pending status indicates that the attribute values for the test record have been completed, but that the final approval for the test record is still outstanding. When the status is Approval Pending, you can make some modifications to the test record, such as changing the status to Open, but you cannot modify the test record attributes.
- **Closed.** Set the test record status to Closed after all of the information for the test record and its attributes have been approved. Change the status to Closed to update the quality order attributes to those recorded on the test.

  When the status is Closed, there can be no further modifications to the test, including its status. Only the Remarks field on the order and test record can be updated. To change the status to Closed, values must have been entered for all test record attributes that have the Required setting enabled.
- **Canceled.** Set the status to Canceled if no activity is required or performed for the test record. When the test record is for a quality order and the status of a test record is Canceled, it can be changed to either Open or Results Pending, if the status of its quality order is either Open or Results Pending.
- **Closed Edit Pending.** This status, which is only used in QAD .NET UI, indicates that a closed test record was modified for corrections using the Edit Close Quality Order Test Recs program in QAD .NET UI. In the QAD Web UI, you can edit a closed test record using the Edit Closed Test action. When using the Edit Closed Test action in QAD Web UI, the test record status always remains Closed.

  If a test record is closed, it can only be maintained using the Edit Closed Test action. A certificate of analysis cannot be printed for a test record while it is being modified for corrections.

Test Result

The result of the test record. The result for the test is automatically updated as values for its attributes are entered.

- **Not Entered.** The initial result for a test record, when values have not been entered for any of the attributes.
- **Conforming.** The result when all of the attribute specifications (Validation = Yes) have conforming attribute values, and all of the attributes (Required = Yes) have been entered.
- **Non-Conforming.** The result when any of the attribute specifications (Validation = Yes) have non-conforming attribute values, and all of the attributes (Required = Yes) have been entered.
- **Incomplete.** The result when some of the attribute values have been entered, and at least one attribute value (Required = Yes) has not been entered.
- **Inconclusive.** The result when the result for any one of its attributes has been manually set to Inconclusive.

Reference

Optionally, enter data that identifies a test, lab, or reference document for the test specification.

Sequence

The sequence number for the test record on the quality order. The sequence determines the order in which test records print on reports. To make it easier to add attributes within the sequence later, it is recommended that you number the sequences as 10, 20, 30 rather than 1, 2, 3.

Note The system does not allow you to enter the same sequence number for two different test records, unless the sequence number is 0. If two test records have the same sequence number, the system displays an error.

Required

Indicates if the test must be either completed and closed or canceled before the quality order can be closed.

Test Quantity

Enter the total quantity for the test.

Measurement

Enter a description that explains how data was measured in the test.

Quantity Accepted

Enter the sample quantity that was accepted in the test.

Quantity Rejected

Enter the sample quantity that was rejected in the test.

Quantity Retained

Enter the inventory quantity that is retained for possible retesting.

Quantity Destroyed

Enter the inventory quantity that was destroyed to perform the test. Quantities are typically destroyed for destructive testing, such as determining the tensile strength of wire.

Open Date

The date the test record was created.

Material Disposition

Enter or select the generalized code value that best describes the material disposition of the item lot. Generalized code values are set up using **Generalized Codes** for field name ql_mtl_disposition.

Disposition Date

Enter the disposition date.

Tested Date

Enter the date the test executed.

Tested By

Enter the employee ID who executed the test.

Verified Date

Enter the date the test results were verified.

Verified By

Enter the employee ID who verified the test results.

Remarks

Enter any remarks related to the test record.

Test Attribute (Child) Row

Attribute

The attribute ID associated with the test record.

Label

The label for the selected attribute.

Attribute Description

The description of the attribute.

Attribute Value

Enter the attribute value in this field.

Measurement

A description that explains how data was measured in the test.

Inconclusive

Select this checkbox if the test results for the attribute were inconclusive or there was no data. When this option is selected, the Attribute Result will be set to Inconclusive.

Attribute Result

Displays the result of the attribute value entered in the Attribute Value field:

- **Not Entered.** The initial result when values have not been entered for any of the attributes.
- **Conforming.** The result when the value entered is within the accepted specification defined in the item profile.
- **Non-Conforming.** The result when the value entered is not within the accepted specification defined in the item profile.
- **Inconclusive.** For a quality order (quality type), when the Test Attribute value on the Test Record has been manually set to Inconclusive. This result is used when the test results for the attribute were inconclusive or there was no data.

  Note This result not available for logical and date data type attributes or for attributes without a defined specification.
- **Blank.** The result when no specification has been defined for the attribute in the item profile.

Reference

Optionally, enter any reference information in this field.

Remarks

Optionally, enter any remarks in this field.

Sequence

The sequence number for the attribute on the test record. The sequence determines the order in which attributes print on reports. To make it easier to add attributes within the sequence later, it is recommended that you number the sequences as 10, 20, 30 rather than 1, 2, 3.

Specification

A short description of the attribute specification. For example, if the item attribute is Country of Origin, this field could display the countries that are acceptable.

Note If necessary, the Specification and Specification Details fields can be hidden in the quality order browses. This is useful if you do not want a certain role to be influenced by the Specification and Specification Details when entering attribute values. Hiding the specification fields should only be done by system administrators. To hide the Specification and Specification Details fields, see:

- **Inventory Control** > Inventory Attributes panel > Display Specification for Results Entry field
- **Quality Control** > Quality panel > Display Specification for Results Entry field
- **Role Permissions**. See the *QAD Adaptive UX Implementation Guide*.

Specification Detail

Displays a system-generated description of the specification.

For example, if the specification is Country of Origin where US, ES, and IT are acceptable countries, this field will display "Include List: US, ES, IT." If the specification is for a value that is greater than or equal to 1% and target value of 2%, this field will display "Target Value:2%; Minimum:1%; Minimum Inclusive:yes;". If there is no specification defined, this field will display "None."

Note If necessary, the Specification and Specification Details fields can be hidden in the quality order browses. This is useful if you do not want a certain role to be influenced by the Specification and Specification Details when entering attribute values. Hiding the specification fields should only be done by system administrators. To hide the Specification and Specification Details fields, see:

- **Inventory Control** > Inventory Attributes panel > Display Specification for Results Entry field
- **Quality Control** > Quality panel > Display Specification for Results Entry field
- **Role Permissions**. See the *QAD Adaptive UX Implementation Guide*.

Required

Indicates if the attribute value must be entered before the test record is changed to Approval Pending or Closed.

Validate

Indicates if the system verifies that the attribute value that is entered falls within specifications.

Entered

Indicates if the attribute value has been entered.

Test Method

Displays the test method associated with the attribute.

Level

Displays the attribute level (item, lot, sublot, or test).

- **Item**. The attribute is a characteristic of the item. For example, an item-level attribute would be a field that is defined for an item master record, such as Item Type, Status, and Design Group. Item-level attributes can be defined with parameters to specify a value, specification, and measurement. The values for item-level attributes are fixed and they do not vary from lot to lot, like the fields in **Items**.
- **Lot**. The attribute is specific to an item lot and is a characteristic of a lot master. The attributes for a lot master apply to that item and lot across all sites and locations within a domain. You can define the default value and specifications of lot-level attributes to determine if an item and a lot are conforming or non-conforming.
- **Test**. The attribute is specific to a test specification. When an attribute is added to a test specification, the system automatically applies the Test level to that attribute.
- **Sublot**. The attribute is specific to an item, a lot, and an inventory detail reference and is a characteristic of a lot master and sublot. Like lot-level attributes, you can define the default value and specifications of sublot-level attributes to determine if an item and a lot are conforming or non-conforming.

Source

Displays the source profile for the attribute. For example, if there is a deviation for an item and supplier, the source field indicates whether the attribute is specific to the item and supplier, the item, supplier, and site, or if it applies generally to the item.

Attributes

Displays the lot or sublot attributes for the quality order.

Attribute

Displays the attribute ID associated with the quality order.

Label

Displays the label for the selected attribute.

Attribute Description

Displays the description of the attribute.

Attribute Value

Enter the attribute value in this field.

Measurement

Displays how the attribute is measured or determined. For example, a measurement for flow rate might be expressed as “psi" or “liters/min.”

Attribute Result

Displays the result of the attribute value entered in the Attribute Value field:

- **Not Entered.**The initial result when values have not been entered for any of the attributes.
- **Conforming.**The result when the value entered is within the accepted specification defined in the item profile.
- **Non-Conforming.**The result when the value entered is not within accepted specification defined in the item profile.
- **Inconclusive.** For a quality order (quality type), the result for an attribute on a test specification when the attribute value has been manually set to Inconclusive. This result is used when the test results for the attribute were inconclusive or there was no data.

  Note This result not available for logical and date data type attributes or for attributes without a defined specification.
- **Blank.**The result when no specification has been defined for the attribute in the item profile.

Reference

Optionally, enter any reference information in this field.

Remarks

Optionally, enter any remarks in this field.

Sequence

Displays the sequence number for the attribute on the item profile. The sequence determines the order in which attributes print on reports.

If necessary, you can update the sequence number for a given attribute. The system allows you to enter the same sequence number for two different attributes. If two attributes have the same sequence number, the system displays a warning.

Specification

A short description of the attribute specification. For example, if the item attribute is Country of Origin, this field could display the countries that are acceptable.

Note If necessary, the Specification and Specification Details fields can be hidden in the quality order browses. This is useful if you do not want a certain role to be influenced by the Specification and Specification Details when entering attribute values. Hiding the specification fields should only be done by system administrators. To hide the Specification and Specification Details fields, see:

- **Inventory Control** > Inventory Attributes panel > Display Specification for Results Entry field
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- **Role Permissions**. See the *QAD Adaptive UX Implementation Guide*.

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For example, if the specification is Country of Origin where US, ES, and IT are acceptable countries, this field will display "Include List: US, ES, IT." If the specification is for a value that is greater than or equal to 1% and target value of 2%, this field will display "Target Value:2%; Minimum:1%; Minimum Inclusive:yes;". If there is no specification defined, this field will display "None."

Note If necessary, the Specification and Specification Details fields can be hidden in the quality order browses. This is useful if you do not want a certain role to be influenced by the Specification and Specification Details when entering attribute values. Hiding the specification fields should only be done by system administrators. To hide the Specification and Specification Details fields, see:

- **Inventory Control** > Inventory Attributes panel > Display Specification for Results Entry field
- **Quality Control** > Quality panel > Display Specification for Results Entry field
- **Role Permissions**. See the *QAD Adaptive UX Implementation Guide*.

Source

Displays the source profile for the attribute. For example, if there is a deviation for an item and supplier, the source field indicates whether the attribute is specific to the item and supplier, the item, supplier, and site, or if it applies generally to the item.

Required

Indicates if the attribute value must be entered before the order status is changed to closed.

Validate

Indicates if the system verifies that the attribute value that is entered falls within specifications.

Entered

Indicates if the attribute value has been entered.

Test

Displays the test ID associated with the attribute.

Test Description

Displays a short description of the test.

Test Method

Displays the test method associated with the attribute.

Level

Displays the attribute level (item, lot, or sublot).

- **Item**. The attribute is a characteristic of the item. For example, an item-level attribute would be a field that is defined for an item master record, such as Item Type, Status, and Design Group. Item-level attributes can be defined with parameters to specify a value, specification, and measurement. The values for item-level attributes are fixed and they do not vary from lot to lot, like the fields in **Items**.
- **Lot**. The attribute is specific to an item lot and is a characteristic of a lot master. The attributes for a lot master apply to that item and lot across all sites and locations within a domain. You can define the default value and specifications of lot-level attributes to determine if an item and a lot are conforming or non-conforming.
- **Test**. The attribute is associated with a test specification. When an attribute is added to a test specification, the system automatically applies the Test level to that attribute.
- **Sublot**. The attribute is specific to an item, a lot, and an inventory detail reference and is a characteristic of a lot master and sublot. Like lot-level attributes, you can define the default value and specifications of sublot-level attributes to determine if an item and a lot are conforming or non-conforming.

Source

When a quality order is created from a purchasing or production receipt or created for a sales order shipment, the Source panel displays the associated purchasing, production, or sales information.

Purchasing Data

When a quality order is created from a purchase order receipt, this subpanel displays the associated purchasing data, such as supplier, purchase order number, purchase order line, and site.

To see more detailed information about the associated purchase order, select the purchase order drill-down links.

Supplier

The supplier associated with the quality order.

Order

The purchase order associated with the quality order.

Line

The purchase order line associated with the quality order.

Site

The site associated with the purchase and quality order.

Production Data

When a quality order is created from a production order receipt, this subpanel displays the associated production data, such as production order number, production order ID, and site.

To see more detailed information about the associated production order, select the production order drill-down links.

Order

The production order associated with the quality order.

ID

The production order ID associated with the quality order.

Line

The production order line associated with the quality order.

Site

The site associated with the production and quality order.

Sales Data

When a quality order is created for a sales order line shipment, this subpanel displays the associated sales data, such as sales order number, sales order line, customer sold to and ship to addresses, and site.

To see more detailed information about the associated sales order, select the sales order drill-down links.

Note You must run the September 2020 version of the Sales App with the Quality Orders App; otherwise, sales line data does not display in the Source panel.

Order

The sales order associated with the quality order.

Line

The sales order line associated with the quality order.

Sold To

The customer's sold to address associated with the sales and quality order.

Ship To

The customer's ship to address associated with the sales and quality order.

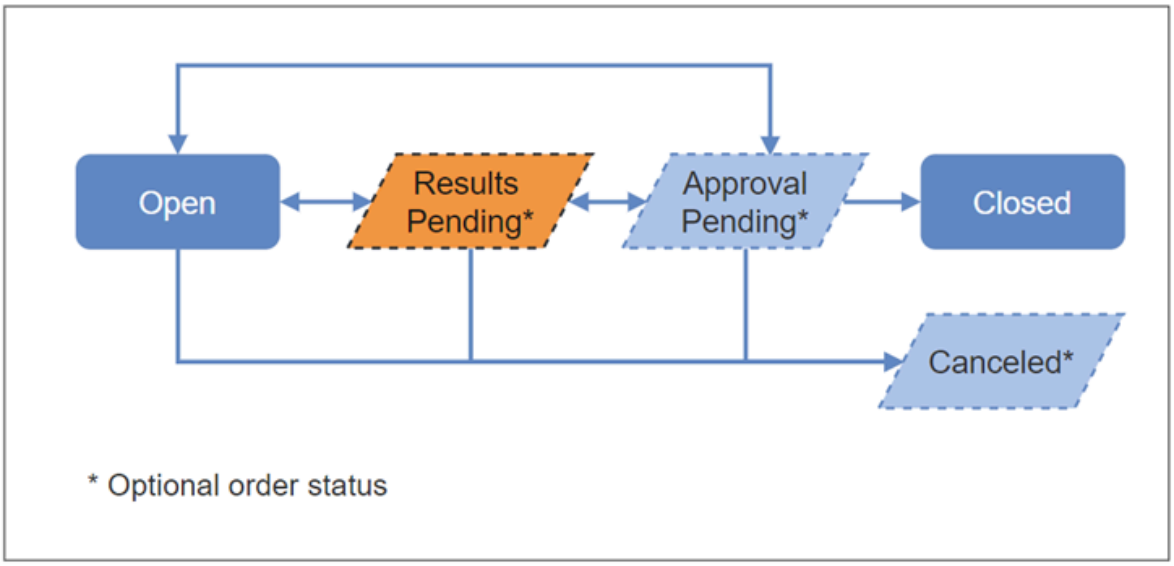
Site

The site associated with the sales and quality order.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Move to Results Pending Action

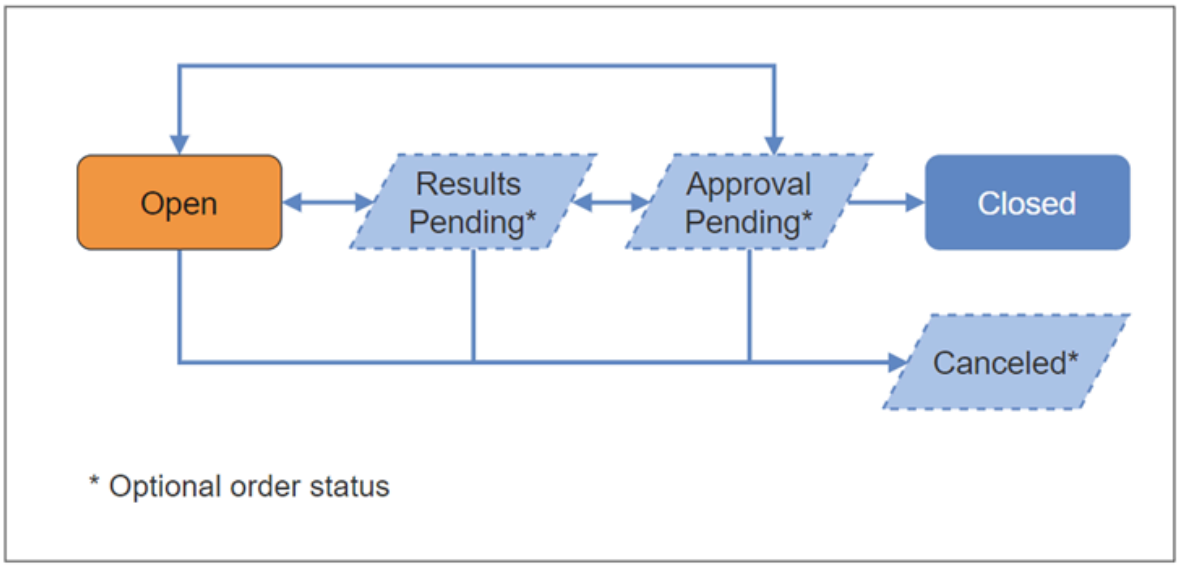


To change the status of a quality order to Results Pending, select Move to Results Pending from the Actions menu.

The Results Pending status indicates that the results have not been fully completed for all the attributes on the quality order. In this status, the order quantity is not automatically updated by receipts for the same item and lot. All other modifications are permitted, including changing the order status to Open.

Only quality orders with an Open and Approval Pending status can be changed to Results Pending.

Open Action

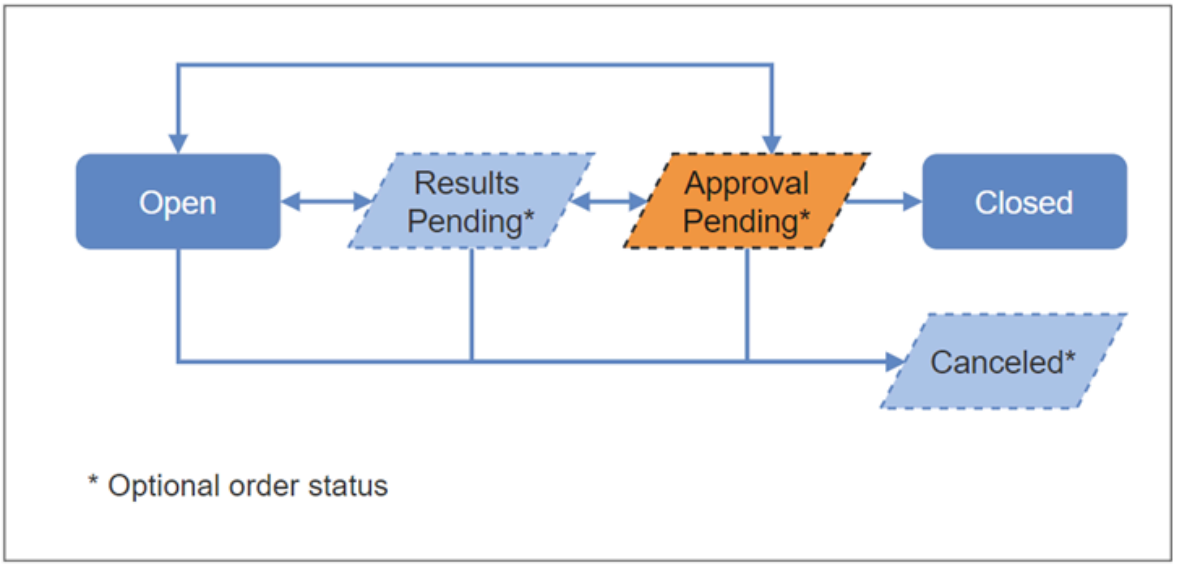


To change the status of a quality order to Open, select Open from the Actions menu.

Open is the initial status for a quality order. The status should be Open if the values for order attributes have not been entered or have not been fully completed. When the status is Open, modifications can be made to the quality order data.

Only quality orders with a Results Pending and Approval Pending status can be changed to Open.

Route For Review Action



To signal that a quality order is ready to review, select Route for Review from the Actions menu. The quality order status then changes to Approval Pending.

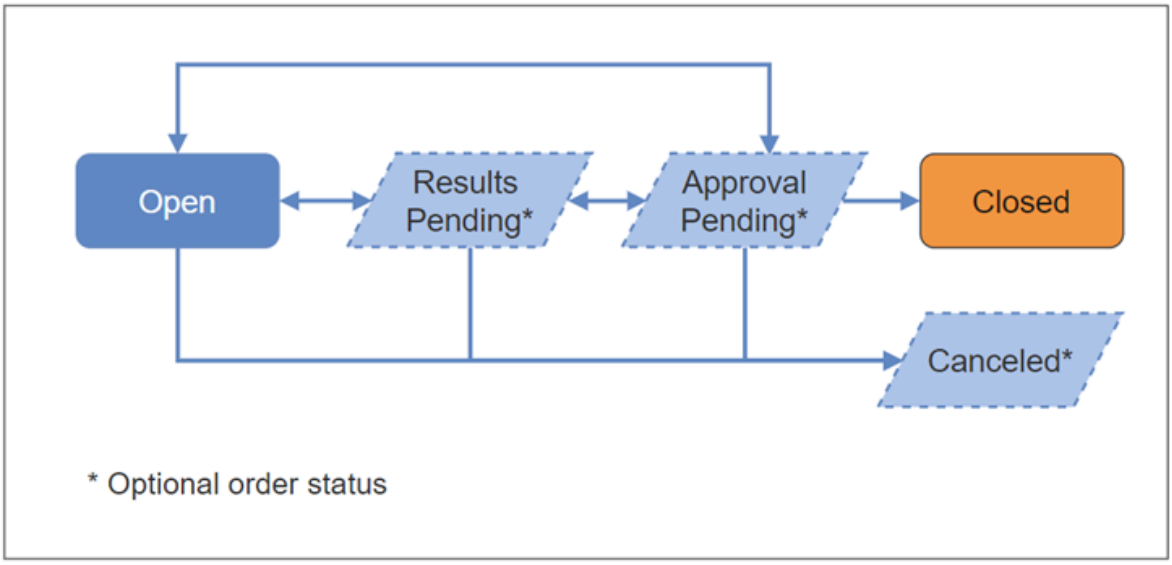
The Approval Pending status indicates that attribute values have been completed and that the test records are canceled or closed, but that the material disposition and final approval for the order itself are still outstanding. When the status is Approval Pending, modifications to quality order attributes and test record attributes are not permitted and there are no automatic changes to the lot quantity when processing additional receipts for the same lot.

Users can change the Reference and Remarks fields for order attributes. For test records, users can change the Remarks field. Other modifications to the quality order record itself are permitted, including changing the order status to Open or Results Pending.

Note If you use the Route for Review action on a quality order that has test records that are Required and are not Closed or Canceled, the system displays an error message saying "All Test Records must be closed or canceled."

Note If you use the Route for Review action on a quality order that has test records that are not Required and are not Closed or Canceled, the system displays the following confirmation message: "Do you want to cancel non-required Test Records that are not closed or canceled?" If you select Yes, the system cancels all non-required test records that were not Closed or Canceled and the quality order is moved to Approval Pending. If you select No, no changes are made to the quality order or test records.

Close Action



To close a quality order, the following conditions must be met:

- All values must have been entered for item attributes that have the Required setting enabled.
- For quality orders (quality type), the associated test records that have the Required setting enabled must be closed or canceled.
- You cannot close a quality order (quality type) if the Order Result is Inconclusive or No Data. If you close a quality order (quality type) when the Order Result is Inconclusive or No Data, the system displays the following message, "The order cannot be closed. Either the Order Result is Inconclusive or No Data. Use Cancel action instead."

When the status of a quality order is Closed, there can be no further modifications to the order, including its status.

Closing a Quality Order Without Material Disposition

When closing a quality order, you can choose to keep the item quantities in their current location without any material disposition. When closing a quality order without any material disposition, the attribute values that were entered are still copied to the item lot.

To close a quality order without material disposition, enter 0 in the Destroy, Retain, and Good Quantity fields or delete all the rows in the grid. Then select Submit to close the quality order.

Changing the Inventory Status When Closing a Quality Order

When closing a quality order, you can change the inventory status of an item lot without transferring the items to a different location.

For example, if you want to change the inventory status where the items are currently located from Not Available to Available you would set the To Site and To Location to the From Site and From Location. Then you would change the To Inventory Status field to the desired inventory status. When the quality order is closed, these items will remain in this location but will now be Available.

Note The change in inventory status only affects this particular item lot at this location.

Closing a Quality Order With Material Disposition

Follow these steps to close a quality order with material disposition:

1. In **Quality Orders**, open the quality order.
2. Select Close from the Actions menu.
3. The Close screen opens displaying the quantities entered in the Main panel for destroyed and retained. The Good quantity displayed is calculated based on the difference between the order quantity and the retained and destroyed quantity.
4. Enter the relevant information for the item quantities designated as destroyed, retained, and good. If you change the Quantities in the

grid, the associated quantities in the Close Quantity Destroyed, Close Quantity Retained, and Close Quantity Good fields are updated with the new values.

- **Destroy.** For items that are destroyed (scrapped), enter the Reason, the Employee ID, and any Remarks.
- **Retain and Good.** For items that are retained and are designated as good, enter the locations where the items will be transferred from and where they will be transferred to.

5. If necessary, you can add rows to the grid by selecting New. For example, if there were multiple reasons why items were destroyed (scrapped), you can add an additional row for destroyed items and then select a different reason code. Or, if you need to transfer the good items into multiple locations, you can add additional rows for Good items and then specify the different locations where the items should be transferred to.
6. Once you have entered all relevant information in the grid, select Submit to close the quality order and to disposition the item quantities.
7. When the quality order is closed:
   - The system updates all Inventory Detail records for the order site with the Regulatory Attributes values (Assay, Grade, and Expire Date) that have changed.
   - The attribute values on the quality order are copied to the item lot attribute values.
   - The item quantities that were destroyed are scrapped from inventory.
   - The item quantities that were retained are transferred to the specified location.
   - The item quantities that were designated as good are transferred to the specified location.
   - To view attribute information, inventory details, and item transaction records associated with the item lot, navigate to **Item Lots** and open the item lot record.

Summary

Order

The unique identifier for the quality order.

Item

The item number associated with the quality order (lot or quality type).

Order Quantity

The lot quantity on the quality order.

Order Result

The result of the quality order, which is automatically updated as values for its attributes are entered.

- **Not Entered.** The initial result for a quality order, when none of the attributes have values that have been entered.
- **Conforming.** The result for a quality order when all of the attribute specifications (Validation = Yes) have conforming attribute values and all of the attributes (Required = Yes) have been entered.
- **Non-Conforming.**The result for a quality order when any of the attribute specifications (Validation = Yes) have non-conforming attribute values and all of the attributes (Required = Yes) have been entered.
- **Incomplete.** The result for a quality order when some of the attribute values have been entered and there is at least one attribute value (Required = Yes) that has not been entered.
- **Inconclusive.** The result for a quality order (quality type) when the attribute value on a test specification has been manually set to Inconclusive. This result is used when the test results for the attribute were inconclusive or there was no data.

Main

Order Quantity Destroyed

Displays the lot quantity that will be scrapped or destroyed. This quantity is the value that was entered in the Total Quantity Destroyed field in the Quality Orders main panel.

Items that are destroyed are typically from destructive testing.

Order Quantity Retained

Displays the lot quantity that will be retained at a specified location. This quantity is the value that was entered in the Total Quantity Retained field in the Quality Orders main panel.

Items that are retained are typically held for future retesting.

Order Quantity Good

Displays the lot quantity that is good. This value is calculated by subtracting the Total Quantity Destroyed and the Total Quantity Retained from the Order Quantity.

Order Quantity Good = Order Quantity - (Total Quantity Destroyed + Total Quantity Retained)

Close Quantity Destroyed

Displays the lot quantity on the order that will be scrapped or destroyed when the order is closed. When changes are made to the Destroy quantity in the Main grid on the Close screen, this field is updated.

Items that are destroyed are typically from destructive testing. When the quality order is Closed, the system processes an inventory scrap transaction to issue the quantity destroyed from inventory.

Note If the Destroy Quantity is changed, the system displays a confirmation message to inform the user that the destroy quantity is different than the destroy quantity entered on the order (Order Quantity Destroyed).

Note If the sum of the Close Quantity Retained and Close Quantity Destroyed is greater than the Order Quantity, an error message is displayed because the system does not allow you to retain or destroy more items than what is on the quality order.

Close Quantity Retained

Displays the lot quantity on the order that will be retained at a specified location when the order is closed. When changes are made to the Retain quantity in the Main grid on the Close screen, this field is updated.

Items that are retained are typically held for future retesting. When the quality order is Closed, the system processes an inventory transaction to transfer the quantity retained to a specified site and location.

Note If the Retain Quantity is changed, the system displays a confirmation message to inform the user that the retain quantity is different than the retain quantity entered on the order (Order Quantity Retained).

Note If the sum of the Close Quantity Retained and Close Quantity Destroyed is greater than the Order Quantity, an error message is displayed because the system does not allow you to retain or destroy more items than what is on the quality order.

Close Quantity Good

Displays the lot quantity on the order that is good. When changes are made to the Good quantity in the Main grid on the Close screen, this field is updated.

Note If the sum of the Close Quantity Retained and Close Quantity Destroyed is less or equal to the Order Quantity and the sum of the Close Quantity Retained, Close Quantity Destroyed and Close Quantity Good is greater than the Order Quantity, a confirmation message is displayed.

Main Grid

Type

Displays the material disposition type (Destroy, Retain, or Good).

Quantity

The lot quantity that will be destroyed, retained, or designated as good. If necessary, you can edit this field.

- **Destroy Quantity.** When the Close window is opened, this value is the same value that was entered in the Total Quantity Destroyed field in the Main panel.
- **Retain Quantity.** When the Close window is opened, this value is the same value that was entered in the Total Quantity Retained field in the Main panel.
- **Good Quantity.** When the Close window is opened, this value is calculated as follows by using the values entered in the Main panel: Quantity = Order Quantity - (Total Quantity Destroyed + Total Quantity Retained)

Reason

The reason why the lot quantity will be destroyed (scrapped). This field is only active for item quantities that will be destroyed (scrapped).

Reason Description

A short description of the reason why the lot quantity will be destroyed (scrapped).

From Site

Displays the site associated with the item lot/serial on the quality order.

From Location

The location where the lot quantity on the quality order is currently located. If the item quantities exist in one location, the location is defaulted in. If the item quantities exist in multiple locations, the field will be blank so that the user can enter the location to transfer from.

When the quality order is closed, the lot quantity is transferred or issued from this location.

Location codes identify physical locations where inventory is stored. Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts. Location code can be used to select specific information to appear on reports and inquiries.

From Lot/Serial

Displays the lot/serial number of the item on the quality order.

From Reference

Enter a reference number to associate with the specified item quantity. For example, this can be the production lot of the item or a location reference such as a pallet number. Reference numbers are optional.

From Inventory Status

The inventory status code associate with the From Location.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Set up inventory status codes in **Inventory Status Codes**.

Item quantities received into inventory are automatically assigned an inventory status based on one of the following:

- The production order or PO Receipt Status settings in **Items**.
- Settings in **Inventory Detail**.
- The default inventory status for the receiving location or site, set up in **Locations** or in **Sites**.

You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers.

You can apply field security to this field to restrict access.

If you do not have access to the Inventory Status field (ld_status), transferred items must assume the default inventory status of the transfer-to location. In this case, you must respond Yes to the "Use to status?" prompt. For example, a restricted user transferring items from location 100, with a default inventory status of GOOD, to location 200, with a default inventory status of INSPECT, cannot have the transferred items retain the GOOD inventory status.

To Site

Enter the site where the lot quantity will be transferred to. This field is only active for item quantities that are retained or designated as good.

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations—stockrooms, inspection stations, shop floors.

To Location

Enter the location where the lot quantity will be transferred to. This field is only active for item quantities that are retained or designated as good.

Location codes identify physical locations where inventory is stored. Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction—issues, receipts, transfers, and counts. Location code can be used to select specific information to appear on reports and inquiries.

To Lot/Serial

Displays the lot/serial number of the item on the quality order.

To Reference

The reference number associated with the To Location. For example, this can be the production lot of the item or a location reference such as a pallet number.

To Inventory Status

The inventory status code associate with the To Location.

Inventory status codes determine whether inventory balances are available for allocation, are considered by MRP, and are allowed to go negative. Status codes also restrict particular transactions at specific

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You can assign a different inventory status to individual item quantities at a particular site or location or item quantities in the same location that are differentiated by unique lot, serial, or reference numbers.

You can apply field security to this field to restrict access.

If you do not have access to the Inventory Status field (ld_status), transferred items must assume the default inventory status of the transfer-to location. In this case, you must respond Yes to the "Use to status?" prompt. For example, a restricted user transferring items from location 100, with a default inventory status of GOOD, to location 200, with a default inventory status of INSPECT, cannot have the transferred items retain the GOOD inventory status.

Employee

Enter the employee ID of the person who designated the lot quantity as destroyed (scrap). This field is only active for item quantities that will be scrapped.

Employee Description

Displays the name of the employee who designated the lot quantity as destroyed (scrap).

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances: a production order does not increase the balance in the general ledger inventory account until this effective date.

Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the effective date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end these are often different: if the period ends on Friday but

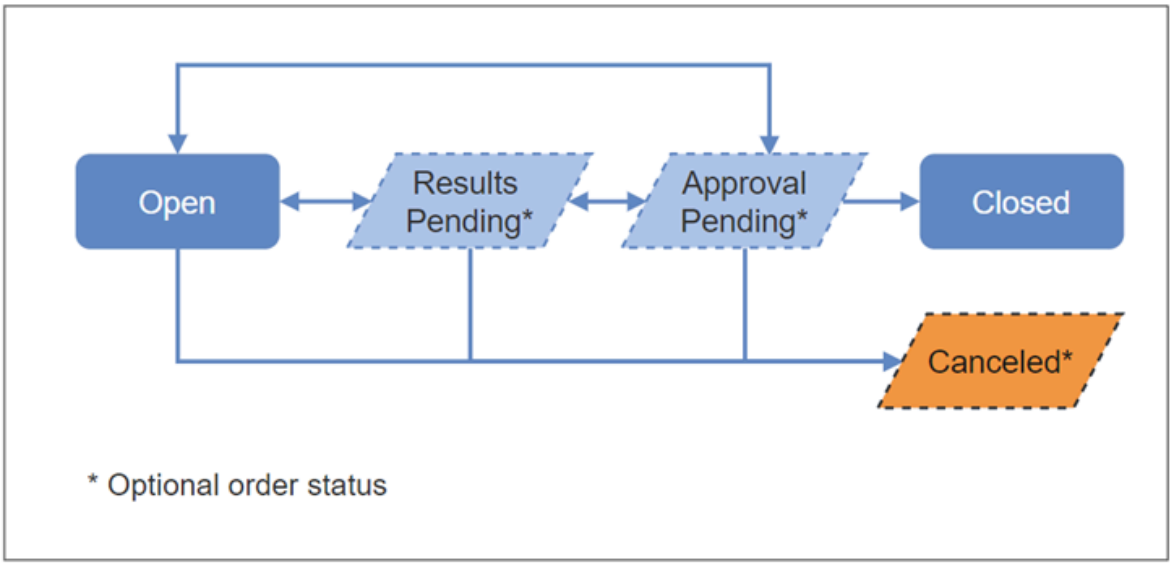
you are still processing receipts on Monday, you may set the effective date to Friday's date. The entered date is Monday's date.

Note If the user enters an effective date that is not in the open GL period, the system displays the following error: "Period has been closed for entity."

Remarks

Enter any comments that you want to record with the scrap transaction. This field is only active for item quantities that will be scrapped.

Cancel Action



To cancel a quality order, select Cancel from the Actions menu.

Set the status to Canceled if no activity is required on the quality order.

When a quality order is canceled:

- You cannot make any further updates to the order.
- Any attribute values on the order are not copied to the item lot.
- Quality orders that have been canceled cannot be deleted.

Only quality orders with an Open, Results Pending, and Approval Pending status can be changed to Canceled.

Edit Closed Order Action

To edit a closed quality order, select Edit Closed Order from the Actions menu. The Edit Close Order screen opens, allowing you to update fields for Remarks, Material Disposition, Disposition Date, Completed Date, Completed By, Approval Date, and Approval By. Select Submit to save the changes and to close the quality order. During this process, the status of the quality order remains Closed.

This action is only available for quality orders in Closed or Closed Edit Pending status.

Note When using the Edit Closed Order action, the quality order status always remains Closed.

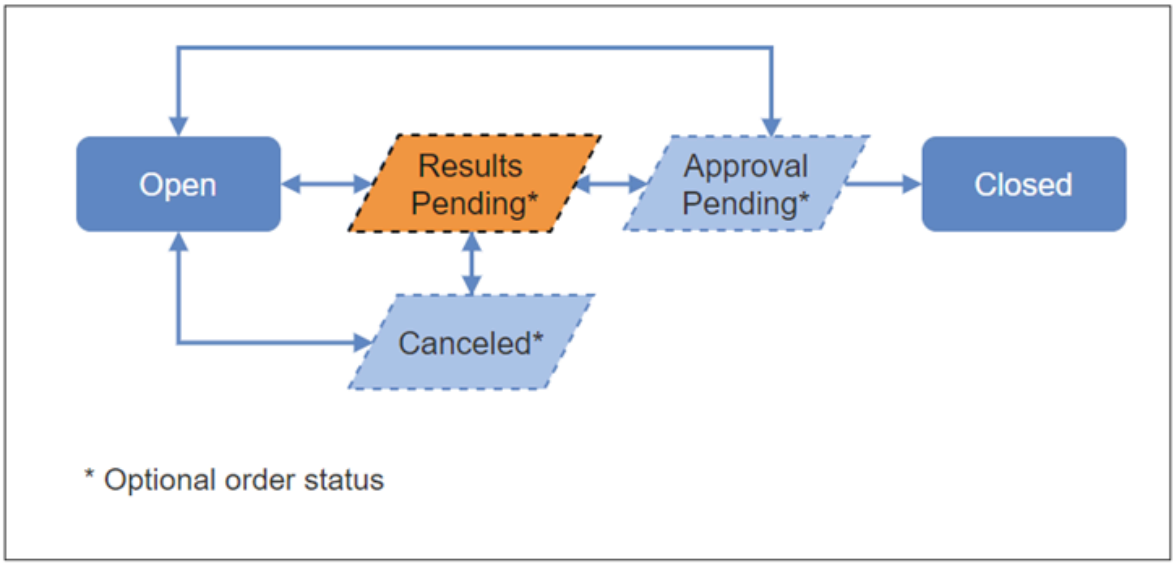
Note When a lot attribute or quality order is Closed, the Reference and Remarks fields on the order attributes are disabled.

Test Records Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

To navigate to the Test Records Actions menu, select Details from the Test Records panel. Then select the Test Records actions menu.

Test Records - Move to Results Pending Action

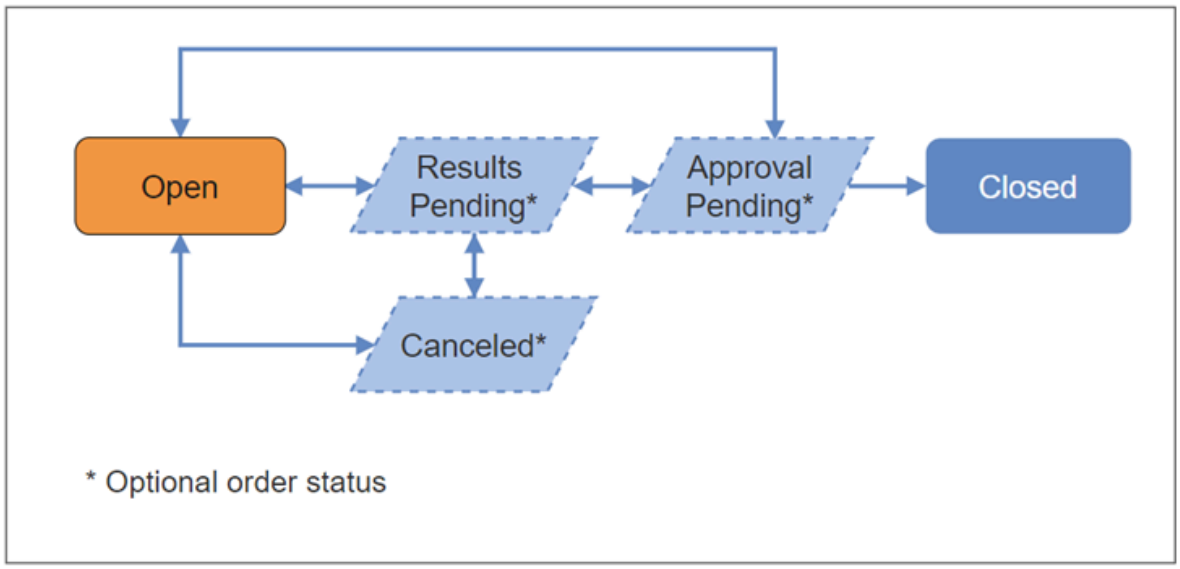


In the Test Records details screen, select the Move to Results Pending action to change the status of a test record to Results Pending.

This status indicates that the results have not been fully completed for all the attributes. For example, users can set the status of a test record to Results Pending to indicate that the quality test is in process and the test attribute values are currently being entered.

All other modifications are permitted, including changing the test record status to Open.

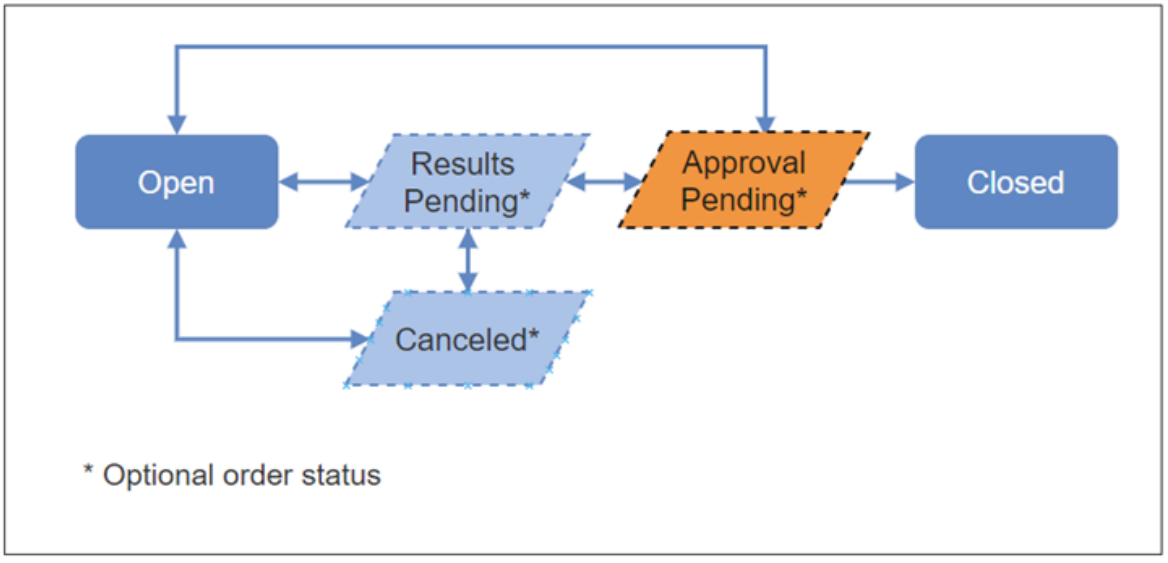
Test Records - Open Action



In the Test Records details screen, select the Open action to change the status of a test record to Open.

When a test record is created, the initial status is set to Open. The status should be Open if the values for test record attributes have not been entered or have not been fully completed. When the status is Open, you can make any modifications to test record data.

Test Records - Route For Review Action

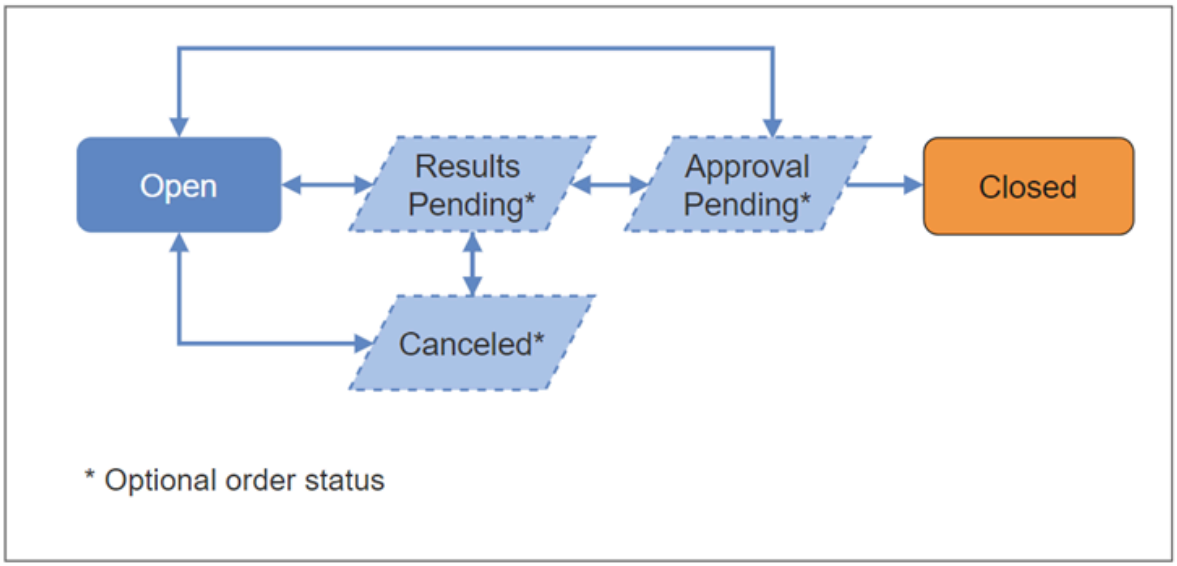


In the Test Records details screen, select the Route For Review action to change the status of a test record to Approval Pending.

This status indicates that the attribute values for the test record have been completed, but that the final approval for the test record is still outstanding. For example, users can set the status to Approval Pending to alert a quality manager that the test is complete, the test attributes have been entered, and the test record results are ready to be reviewed. Use **Alerts** to set up the system so that quality managers are notified automatically when the status changes to Approval Pending.

When the status is Approval Pending, you can make some modifications to the test record, such as changing the status to Open, but you cannot modify the test record attributes.

Test Records - Close Action



In the Test Records details screen, select the Close action to change the status of a test record to Closed.

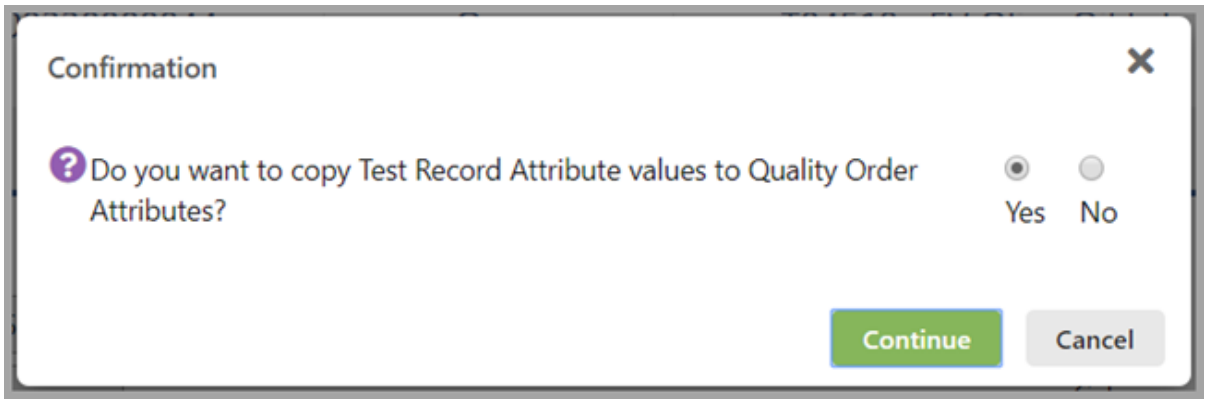
Set the test record status to Closed after all of the information for the test record and its attributes have been approved. Change the status to Closed to update the quality order attributes to those recorded on the test.

When the status is Closed, there can be no further modifications to the test, including its status. Only the Remarks field on the order and test record can be updated. To change the status to Closed, values must have been entered for all test record attributes that have the Required setting enabled.

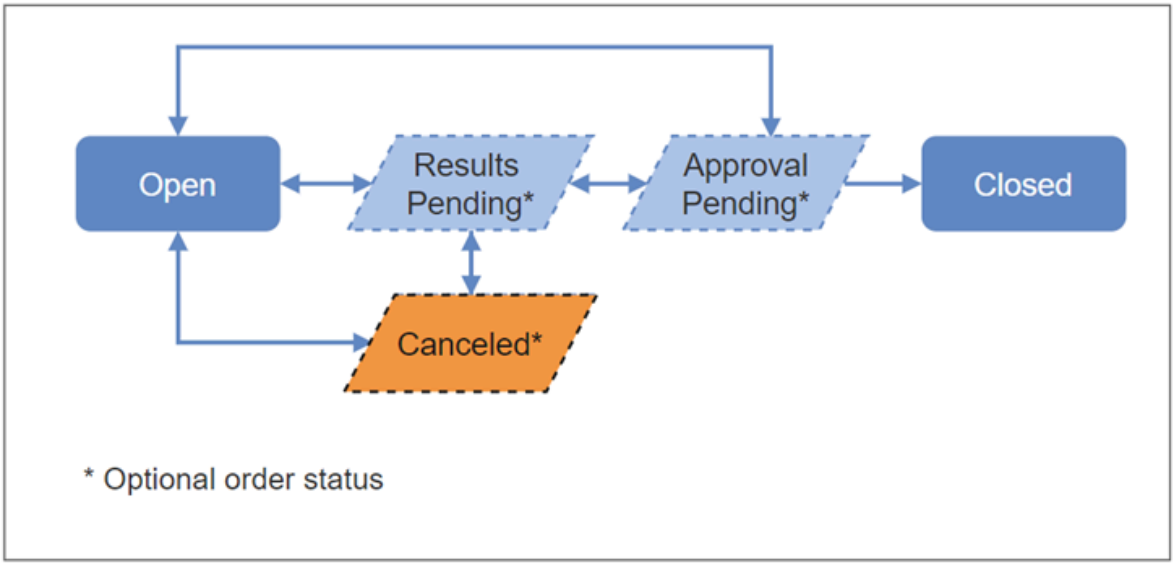
When you close a test record the sytem asks if you want to copy the attributes to the quality order:

- **Yes.** The values are copied over to the quality order attributes in the Attributes panel.

- **No.** The values are not copied and the user has to manually enter the attribute values for the test attributes in the Attributes panel.



Test Records - Cancel Action



In the Test Records details screen, select the Cancel action to change the status of a test record to Canceled.

Set the status to Canceled if no activity is required or performed for the test record. When the test record is for a quality order and the status of a test record is Canceled, it can be changed to either Open or Results Pending, if the status of its quality order is either Open or Results Pending.

Test Records - Edit Closed Test Action

To edit a closed test record, select the Edit Closed Test action from the Test Records details screen. The Edit Closed Test screen opens allowing you to update fields for Reference, Remarks, Material Disposition,

Disposition Date, Tested Date, Tested By, and Verified Date. Select Submit to save the changes and to close the test record. During this process, the status of the test record remains Closed.

This action is only available for test records in Closed or Closed Edit Pending status.

Note When using the Edit Closed Test action, the quality order status always remains Closed.

Note When a test record is Closed, the Reference and Remarks fields on the test attributes are enabled allowing you to make any necessary changes.

Creating a Quality Order for Inventory

Note To create a quality order for a sublot, the following must be set up first:

- The Use Inventory Reference as Sublot option must be selected in the **Inventory Control** > Item Attributes panel.
- There must be a sublot-level attribute defined in the associated Item Attributes Profile.
- A receipt must be performed for the item where a value is entered in the Reference field. If the receipt is performed for the item with a blank Reference, a quality order for the sublot cannot be created.

Follow these steps to create a new quality order:

1. In **Quality Orders**, select New.
2. Enter the item, site, lot/serial, and sublot information. Then select the order type, which is set to Lot by default.

   Note Item, Site, Lot/Serial, and Order Type are mandatory fields.
3. Optionally, enter an order number in the Order field. If this field is left blank, the system automatically generates an order number based on the number range sequence assigned in **Quality Control**.
4. Continue to enter the relevant information in the other fields.
5. Select Save.

When a quality order (lot and quality type) is saved, the attributes that are associated with the item are populated into the Attributes panel. In addition, when a quality order (quality type) is saved and the item has associated test records, the test records are populated into the Test Records panel.

Creating a Quality Order for Sales

Follow these steps to create a new quality order for sales:

1. In **Quality Orders**, select New.
2. In the Order Source field, select Sales. Then click Select Order and select the sales order and line to associate to the quality order.

3. When the sales order and line is selected, the Item, Site, Sales Order, Sales Order Line, Sold To, and Ship To information defaults in.
4. Enter the lot/serial and sublot information. Then select the order type, which is set to Lot by default.

   Note Item, Site, Lot/Serial, and Order Type are mandatory fields.
5. Optionally, enter an order number in the Order field. If this field is left blank, the system automatically generates an order number based on the number range sequence assigned in **Quality Control**.
6. Continue to enter the relevant information in the other fields.
7. Select Save.

When a quality order (lot and quality type) is saved, the attributes that are associated with the item are populated into the Attributes panel. In addition, when a quality order (quality type) is saved and the item has associated test records, the test records are populated into the Test Records panel.

Deleting a Quality Order

You can only delete a quality order that is manually created. If the quality order is automatically created or if the quality order status is not Open, the Delete button is hidden.

Quality orders that were automatically created as a result of a receipt transaction cannot be deleted. Deleting a quality order also deletes any associated test records and order attributes, regardless of status or if they are required.

The quality order must be in Open status to be deleted.

To delete a quality order, select the quality order from **Quality Orders** and select Delete.

Entering Attribute Values

Users can enter item attribute values for a quality order in the following ways:

- **Unplanned Receipts.** You can enter item attribute values for a lot or sublot using the Receive Unplanned action in **Inventory Detail**. The system allows you to enter attributes for single or multiple items and for items that have multiple lot/serials.

  Note Values can be entered for attributes configured with Level = Lot or Sublot and Input Method = User. Attributes configured with Input Method = System must be entered using a quality order.
- **Quality Orders** > Attributes Panel. You can enter item attribute values in the Attributes panel. The attributes displayed in the Attributes panel are attributes associated with the Item Attribute Profile.

  Follow these steps to enter attribute values on a quality order:

1. In **Quality Orders**, open the quality order.

2. In the Attributes panel, double-click anywhere on a row and enter the value in the Attribute Value field. The system checks if the attribute value falls within specifications and displays the result in the Attribute Result field.

   Note Attributes that are manually added to the quality order are not validated or required. When you enter the attribute value for an attribute that has been manually added, the Attribute Result is blank.

3. Select Next Line to enter the value for the next attribute.
4. After entering the last attribute value, select Done to save.

Adding Attributes to a Quality Order

Attributes that are manually added to a quality order are not validated or required, and the Specification and Specification Detail fields are blank:

- Because the Specification and Specification Detail fields do not exist, the Validate option is not available. When you enter the attribute value for an attribute that has been manually added, the Attribute Result is blank.
- Because the attribute is not defined on the Item Profile, the Required option is not available. You do not have to enter the attribute value in order to close the quality order.

To add attributes to a quality order, the quality order must be in Open or Results Pending status.

Follow these steps to add attributes to a quality order:

1. In **Quality Orders** > Attributes panel, select New. The Quality Order Attributes screen opens.
2. In the Attribute field, select the attribute that you want to add to the quality order.
3. Optionally, enter the relevant information in the Sequence, Reference, and Remarks fields.
4. Select Save.

After the attribute has been saved, the attribute is displayed in the Attributes panel.

Deleting Attributes from a Quality Order

You can only delete attributes when:

- The quality order is in Open or Results Pending status.
- The attributes were manually added or if they are not required or validated.

You can delete attributes from quality orders in the following ways:

- Select the attribute in the **Quality Orders** > Attributes grid and select Delete.

- In the **Quality Orders** > Attributes Details screen, select the attribute and select Delete.

Changing the Sequence of Attributes

The system allows you to enter the same sequence number for two different attributes. If you enter a duplicate sequence number, the system displays a warning that the sequence number is in use.

Follow these steps to change the sequence of attributes:

1. In **Quality Orders**, open the quality order.
2. In the Attributes panel, double-click the Sequence field and enter the sequence number.
3. Select Done to save.

Entering Test Record Attribute Values in Details Screens

Follow these steps to enter the test record attributes and the item test quantities in the Test Records Details screens:

1. In **Quality Orders**, open the quality order (quality type).
2. In the Test Records panel, select Details. In the Test Records screen, enter the item test quantities such as Test Quantity, Quantity Accepted, Quantity Rejected, Quantity Retained, Quantity Destroyed, and so on.
3. To enter test attribute values, select Details from the Test Attributes panel.
4. In the Test Attributes screen, enter the values in the Attribute Value field. The system checks if the attribute value falls within specifications and displays the result in the Attribute Result field.

   Note Attributes that are manually added to the test record are not validated or required. When you enter the attribute value for an attribute that has been manually added, the Attribute Result is blank.

5. Continue entering the test attribute values for the remaining attributes. Then select Save.

Entering Test Record Attribute Values in Test Records Grid

Follow these steps to enter the test record attributes and the item test quantities in the Test Records grid:

1. In **Quality Orders**, open the quality order (quality type).
2. In the Test Records panel, double-click the test record (parent) row. Enter the item test quantities such as Test Quantity, Quantity Accepted, Quantity Rejected, Quantity Retained, Quantity Destroyed, and so on.
3. To enter attribute values, expand the test record (parent) row to view the attributes associated with the test record.

4. Double-click anywhere on a row and enter the value in the Attribute Value field. The system checks if the attribute value falls within specifications and displays the result in the Attribute Result field.

   Note Attributes that are manually added to the test record are not validated or required. When you enter the attribute value for an attribute that has been manually added, the Attribute Result is blank.

5. Select Next Line to enter the value for the next attribute.
6. After entering the last attribute value, select Done to save.

Adding a Test Record to a Quality Order

Test Records that are manually added to a quality order (quality type) are not required. Because the Required option is not active and not selected, you do not have to close the test record before closing the quality order (quality type).

To add a test record to a quality order (quality type), the quality order must be in Open or Results Pending status. Also, the test record that is added must be in Released status.

You can add a test record to a quality order (quality type) in the **Quality Orders** > Test Records grid or in the Test Records Details screen.

- To add a test record in the Test Records grid, select New. A new line is added to the grid, allowing you to enter the test record that you want to add. After entering all the relevant information, select Done to save.
- To add a test record in the Test Records Details screen, open the Details screen and select New. A blank form is created, allowing you enter the test record that you want to add. Select Save to add the test record to the quality order.

Deleting a Test Record from a Quality Order

You can only delete a test record from a quality order when:

- The quality order is in Open or Results Pending status.
- The test record was manually added or if it is not required.

Users can delete a test record from a quality order (quality type) in the following ways:

- Select the test record in the **Quality Orders** > Test Records grid and select Delete.
- In the **Quality Orders** > Test Records Details screen, select Delete.

When the test record is deleted, all the attributes that were associated with the test record are also deleted from the quality order.

Adding Attributes to a Test Record

Attributes that are manually added to a test record are not validated or required and the Specification and Specification Detail fields are blank:

- Because the Specification and Specification Detail fields do not exist, the Validate option is not available. When you enter the attribute value for an attribute that has been manually added, the Attribute Result is blank.
- Because the attribute is not defined on the Test Specification, the Required option is not available. You do not have to enter the attribute value in order to close the test record.

To add attributes to a test record on a quality order, the quality order and test record must be in Open or Results Pending status.

Follow these steps to add attributes to a test record on a quality order:

1. In **Quality Orders** > Test Records panel, select the test record and then select Add Child.
2. The Test Record Attributes screen opens. In the Attribute field, select the attribute that you want to add to the test record.
3. Optionally, enter the relevant information in the Sequence, Reference, and Remarks fields.
4. Select Save.

After the attribute has been saved, the attribute is displayed in the Test Records panel.

Deleting Attributes from a Test Record

You can only delete attributes from a test record when:

- The test record is in Open or Results Pending status.
- The test record attributes were manually added or if they are not required or validated.

You can delete test record attributes from quality orders (quality type) in the following ways:

- Select the attribute in the **Quality Orders** > Test Records grid and select Delete.
- In the **Quality Orders** > Test Records Details screen, select the attribute and select Delete.

Quality Order Delete & Archive

When a quality order is deleted, the associated quality order attributes, test records, and the test record attributes are deleted as well. This function allows you to clean the database of quality orders and test records that are old and obsolete.

You can filter by Quality Orders, Open Date, Completed Date, Item, Site, Lot/Serial, Sublot, Status, Order Type, and Closed Orders Only:

- **Status**. Allows you to filter by quality order status (Approval Pending, Open, Canceled, Closed, Closed Pending, or Results Pending).
- **Order Type**. Allows you to filter by quality order type (Lot, Quality, or Both).
- **Closed Orders Only**. Allows you to filter for closed quality orders only by setting this field to Yes.

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows you to see the orders that fall within the specified filter criteria before deleting and archiving the orders.

To delete quality orders only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the orders based on the filter criteria specified.

To archive quality orders only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the orders. The name of the file is displayed on the report.

To archive and delete quality orders, set both the Archive and Delete options to Yes. Select Run and the system creates an archive file listing the deleted orders and then deletes the orders. The name of the file is displayed on the report.

Test Specifications

A test specification is a set of one or more attributes that are measured by a defined process, such as a test to measure physical dimensions, physical properties, chemical composition, electrical properties, or biological analysis. For example, a test specification that requires the biological analysis of an item may measure for the presence of coliforms, E coli, or salmonella. In this case, the coliform, E coli, and salmonella attributes would be added to the test specification and each of the attributes would have defined specifications that determine if the item lot conforms or does not conform. Any time this test specification is performed, the quality technician would test for each of those attributes using the specified quality test that is defined in the test specification.

Test Specifications also allows users to link items to the test specification so that when a quality order is created for that item, the associated test specification will be performed. The link between a test specification and an item includes parameters that determine whether the test specification applies to the testing of an item lot or to a WIP operation.

Similarities Between Test Specification and Item Attribute Profiles

The following are similarities between test specifications and item attribute profiles:

- Both are essentially collections of item attributes.
- Both can have attribute specifications that determine whether attribute values are conforming or non-conforming.
- Like item attribute profiles, you can copy attributes and specifications from another test specification or another profile.

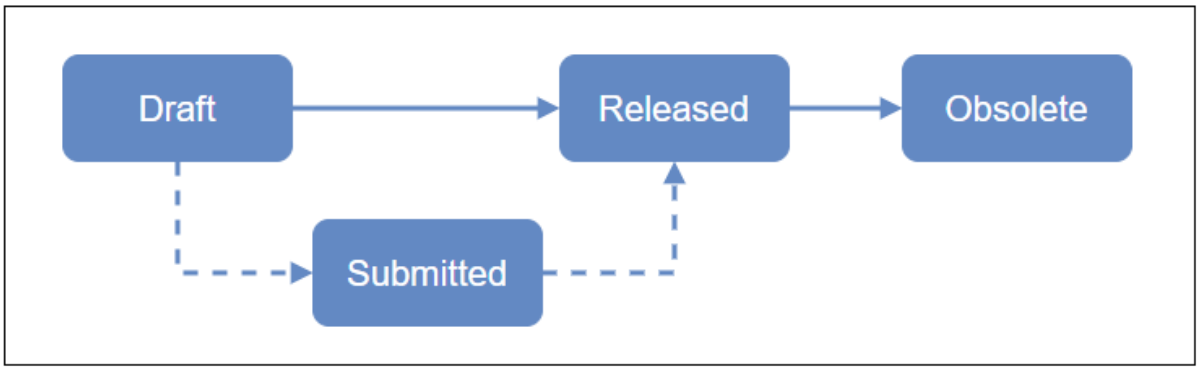
Differences Between Test Specifications and Item Attribute Profiles

The following are differences between test specifications and item attribute profiles:

- A test specification is identified by a test specification ID and a revision level while an item attribute profile is identified for an item.
- A test specification is a revision-controlled document.
- A test specification can have multiple revisions.
- A test specification can be linked to one or more items.
- A test specification can be linked to an item, routing, and operation (for work-in-process materials).

Test Specification Lifecycle

A test specification and revision may have a status of Draft, Submitted (for approval), Released, or Obsolete. The following diagram shows the typical life cycle of a test specification.



A test specification and revision is only editable when its status is Draft. When its status is Released, it is an active document used to capture test records for quality orders and production operations.

For more information about moving a test specification through its lifecycle, see:

- Move To Draft on page 3891
- Release on page 3892
- Submit on page 3892
- Obsolete on page 3893

Related Tasks

Test Specifications allows users to perform a variety of tasks for managing test specifications. These tasks include creating or revising a test specification, adding attributes to a test specification, verifying that the attributes on a test specification are set up correctly, and linking an item to a specification. For more information, see:

- Creating a Test Specification on page 3887
- Revising a Released Test Specification on page 3887
- Copy Attributes From Item Profile on page 3893
- Copy Attributes From Test Specification on page 3894
- Adding Attributes to a Test Specification on page 3888
- Verify Item Attribute Setup on page 3889
- Linking an Item to a Test Specification on page 3890

Main

Test

Enter a unique identifier for the test specification. This field is mandatory.

Revision

Enter the revision or the test specification. The test ID and the revision for a test specification uniquely identify the attributes and specifications for a test specification.

Description

Optionally, enter a description of the test specification. The description applies to a test ID, regardless of its revision.

Category

Optionally, enter a valid category for the attribute.

Note Attribute categories are set up in using Categories.

Reference

Optionally, enter data that identifies a test, lab, or reference document for the test specification.

Status

The status for the test specification to identify its state within its document life cycle. The status for a test specification can be any one of the following:

- **Draft.** The test specification can be edited, but it cannot be referenced by test records. When the test specification is in Draft status, if the user is editing an existing test specification, the only fields that can be modified are Description, Category, Reference and all the Test Sample Plan subpanel fields.
- **Submitted.** The content of the test specification cannot be edited, and it cannot be referenced by test records.
- **Released.** The content of the test specification cannot be edited, and it is referenced by test records for quality orders and for production orders and production order operations. Only one test specification revision for a test ID can have a Released status at the same time. When a new revision for a test ID is released, the status for the existing test specification for the test ID is automatically changed to Obsolete.
- **Obsolete.** The content of the test specification cannot be edited. It is not referenced when the system creates test records for quality

orders and test records. You can manually create a test record for a test specification when its status is Obsolete.

When creating a new test specification, the Status defaults to Draft and this field is read only.

To change the status of a test specification, use the Test Specifications Actions menu.

Release Date

Displays the release date of the test specification. This field is automatically updated when the Release action is performed.

Released By

Displays the ID of the user who released the test specification. This field is automatically updated when the Release action is performed.

Obsolete Date

Displays the date the test specification was obsoleted. This field is automatically updated when the Obsolete action is performed.

Obsoleted By

Displays the ID of the user who obsoleted the test specification. This field is automatically updated when the Obsolete action is performed.

Test Sample Plan

The fields in this subpanel are used to maintain the parameters that people can reference to determine how to sample a lot.

Number of Samples

Enter the number of samples that must be taken from the lot to conduct the test.

Sample Quantity

Enter the sample quantity or size that must be taken to conduct the test. For example, if the sample size is 1 mg, you would enter "1" in the Sample Quantity field and "mg" in the Sample Measurement field. This field is for reference only and is not validated.

Sample Measurement

Enter a description of how you would measure the sample quantity. For example, if the sample size is 1 mg, you would enter "1" in the Sample Quantity field and "mg" in the Sample Measurement field.

Note This field is for reference only and is not validated.

Sample Percent

Enter the sample size (in percentage) that must be taken to conduct the test. For example, if the test requires that you test 1% of the item lot, you would enter 1% in this field.

Sampling Pattern

Enter the sampling pattern that must be followed to conduct the test. For example, you can enter that the sampling pattern is random or that the first, middle, and last items in the lot must be sampled.

Sampling Reference

Optionally, enter any reference information associated with the test.

Attributes

Sequence

Displays the sequence number for the attribute on the item profile. The sequence determines the order in which attributes print on reports. To make it easier to add attributes within the sequence later, it is recommended that you number the sequences as 10, 20, 30 rather than 1, 2, 3.

Note The system does not allow you to enter the same sequence number for two different attributes, unless the sequence number is 0. If two attributes have the same sequence number, the system displays an error.

Attribute

Displays the attribute ID associated with the quality order.

Description

Displays the description of the attribute.

Label

Displays the label for the selected attribute.

Status

Enter the status for the test specification to identify its state within its document life cycle. The status for a test specification can be any one of the following:

- **Draft.** The test specification can be edited, but it cannot be referenced by test records.
- **Submitted.** The content of the test specification cannot be edited, and it cannot be referenced by test records.
- **Released.** The content of the test specification cannot be edited, and it is referenced by test records for quality orders and for production order operations. Only one test specification revision for a test ID can have a Released status at the same time. When a new revision for a test ID is released, the status for the existing test specification for the test ID is automatically changed to Obsolete.

- **Obsolete.** The content of the test specification cannot be edited. It is not referenced when the system creates test records for quality orders and test records. You can manually create a test record for a test specification when its status is Obsolete.

Print

Select this option if you want the attribute to be printed on documents such as sales orders, work orders, and purchase orders.

Default Value

Enter the default value according to the datatype of the attribute. Depending on the Level setting of the attribute, enter the following for the default value:

Datatype	Level Setting	Default Value
Character	Item	Enter the value of the item attribute.
	Lot/Sublot	Enter the initial value the system displays when a user enters the value for a lot (or sublot) attribute when processing a supported receipt transaction or when recording values on a quality order or test specification. For example, if the item is olives and there is a character attribute for country of origin that allows multiple values, enter the countries that are considered conforming, such as "US, ES, AU".
Decimal/ Integer	Item	Enter the value of the item attribute. For example, if the item is a 100-ml bottle and the integer attribute is Size, you would enter 100 in the Default Value field and ml in the Measurement field.
	Lot/Sublot	Enter the initial value that the system displays when a user enters the value for a lot (or sublot) attribute when processing a supported receipt transaction or when recording values on a quality order or test record.
Date	Item	For a date attribute that is an item-level attribute, set Default Value to User Defined and then select or enter the value for the attribute in the target date field.
	Lot/Sublot	For a date attribute that is either a lot-level or sublot-level attribute, select Manufacture Date or Test Date to calculate the default value. Then select Plus or Minus operator in the field

Datatype	Level Setting	Default Value
		next to the Default Value field and a value in the Interval Value (Day) field.
Logical	Item/Lot/ Sublot	Specify the initial value the system displays when a user enters the value for a lot (or sublot) attribute when processing a supported receipt transaction or when recording values on a quality order or test record: • Selected. If you select the Default Value checkbox, the value entered in the True Value field (Conforming) defaults in the field. • Not Selected. If you do not select the Default Value checkbox, the value entered in the False Value field (Non-conforming) defaults in the field.

Specification Type

For a lot-level or sublot-level attribute that is not a logical attribute, select the specification type that is appropriate for the attribute's datatype. The value that is listed in the lookup depends on the datatype and format for the attribute. Specification types include:

- **None.** For all attributes, when there is no specification required to determine if an attribute value is conforming or not.
- **Greater Than.** For character, integer, and decimal datatype attributes that are expressed in terms such as greater than, greater than or equal to, minimum, and not less than.
- **Min Max Value.** For character, integer, and decimal datatype attributes that are expressed in terms such as min max, between, and range.
- **Less Than.** For character, integer, and decimal datatype attributes that are expressed in terms such as less than, less than or equal to, maximum, and not more than.
- **Tolerance Value.** For integer and decimal datatype attributes that are based on tolerances relative to a target value.
- **Tolerance Percentage.** For integer and decimal datatype attributes that are based on percentage tolerances relative to a target value for decimal, and for integer attributes that do not have a format for percentage.
- **Membership.** For character datatype attributes that specify a list of conforming or non-conforming values for an attribute.

- **Rule Expression.** For more complex specifications that are configured by using software coding that follows Progress Software Corporation constructs and conventions and the variable attribute_value.

Specification

A short description for the attribute specification (48 characters max). For example, if the item attribute is Country of Origin, this field could display the countries that are acceptable. You can use the Reference field to make note of additional information or to refer to a document for the attribute or specification.

Measurement

For character, integer, and decimal datatypes, provide a short description for how the attribute is measured or determined (12 characters maximum). For example, a measurement for flow rate might be expressed as ppm, psi, or cl/sec.

Specification Detail

Displays a system-generated description of the specification.

For example, if the specification is Country of Origin where US, ES, and IT are acceptable countries, this field will display "Include List: US, ES, IT." If the specification is for a value that is greater than or equal to 1% and target value of 2%, this field will display "Target Value:2%; Minimum:1%; Minimum Inclusive:yes;". If there is no specification defined, this field will display "None."

Test

For an item-level attribute, enter the test that determines if the item conforms to the specification.

Test Method

For an item level attribute, enter the test method for this attribute.

Reference

Optionally, specify a reference related to the profile attribute, such as a document or standard.

Interval Value (Day)

When the Default Value field is set to Manufacture Date or Test Date and the Plus/Minus setting is set to either Plus or Minus, enter the number of days that determines the default date, which appears on the screen when users are processing this item.

For example, if the attribute is the Bottling Date and you want to set the default date to the Manufacture Date (+ 1 day), you would set the Default Value field to "Manufacture Date," the Plus/Minus field to "Plus," and the Interval Value (Day) field to "1."

Note This field is only used for attributes that are Date datatype and the attribute level is Lot or Sublot. It is only used in combination with the Default Value field and the corresponding Plus/Minus setting.

Value Required

When a lot or sublot attribute appears on a quality or lot attribute order, select this checkbox to require that a value for the lot-level or sublot-level attribute is entered and processed for the order status to be changed to Closed.

Validation

For a lot-level or sublot-level attribute, select this checkbox if the entered value and result for this attribute must fall within specification to determine whether the overall result of the quality or lot attribute order is conforming or non-conforming. Do not select this checkbox for nominal attributes that do not determine whether the result for the order is conforming or non-conforming, such as supplier ID, supplier lot number, or manufacturing part number.

Specification

Depending on the datatype and the specification type that is selected, additional fields appear in the Specification subpanel that require you to enter the attribute specifications.

True Value

Enter the conforming value for the attribute.

Note This field is used in conjunction with the logical datatype, which contains True and False values, such as Organic and Conventional, < 10 ppm and Fail, or Pass and Fail.

False Value

Enter the non-conforming value for the attribute.

Note This field is used in conjunction with the logical datatype, which contains True and False values, such as Organic and Conventional, < 10 ppm and Fail, or Pass and Fail.

Target Value

Enter the target value for the attribute specification.

Minimum Number

Enter the minimum acceptable value for the attribute. This field is available if you select the Greater and Min Max specification types.

Minimum Inclusive

Select this checkbox to include the Minimum Number value in the specification range. For example, if the Minimum Number is 10 and this checkbox is selected, values that are greater than or equal to 10 will be conforming. If this checkbox is not selected, values that are

greater than 10 will be conforming. This field is available if you select the Greater and Min Max specification types.

Maximum Number

Enter the maximum acceptable value for the attribute. This field is available if you select the Less Than and Min Max specification types.

Maximum Inclusive

Select this checkbox to include the Maximum Number value in the specification range. For example, if the Maximum Number is 10 and this checkbox is selected, values that are less than or equal to 10 will be conforming. If this check box is not selected, values that are less than 10 will be conforming. This field is available if you select the Greater and Min Max specification types.

Tolerance (-)

Enter the minimum amount of variation from the target value. This field is available if you select the Tolerance Percentage and Tolerance Value specification types.

Tolerance (+)

Enter the maximum amount of variation from the target value. This field is available if you select the Tolerance Percentage and Tolerance Value specification types.

Multiple Values

For a character attribute, select this checkbox to allow a person to record multiple values for an item lot (and sublot), each value separated by a comma. An example of an attribute that may have multiple values is a blend of olive oil with a Country of Origin attribute that permits more than one country.

Note Do not select this checkbox if the character attribute will only have a single value.

Include List

Enter the list of conforming character values in this field, each separated by a comma.

Exclude List

Enter the list of non-conforming character values in this field, separated by commas.

Note If you enter values in both the Include and Exclude List fields, only the values in the Include list are validated. Values entered in Include List take precedence over the values in Exclude List.

Item Assignment

The Item Assignment panel allows you to define links between an item and a test specification.

To link an item to a test specification, see Linking an Item to a Test Specification on page 3890.

Item

Select or enter the item number to associate with the test ID. If you are linking an item to a test ID, this field displays the item number.

Item Description

A short description of the item.

Site

Optionally, select or enter a site. If you specify a site, then only items at the chosen site link to the test specification.

Sequence

Enter a sequence number for the test specification for the item. The sequence determines the order in which test specifications print on reports. To make it easier to add a test specification within the sequence later, it is recommended that you number the sequences as 10, 20, 30 rather than 1, 2, 3.

Required Test

Select this checkbox if the test is required for the item, item/site, or item, routing, and operation combination. When a test specification is required, then an automatically created test record for that test specification must be either completed and closed or canceled. It cannot be deleted. The default is No.

Category

Optionally, enter a valid category defined using Categories for the test ID.

Routing

For WIP, enter a valid routing or process code. If you enter a routing code, the test specification triggers only when item uses that code.

Operation

Enter a number identifying a step within a specific routing code. Operations are uniquely numbered and sequenced steps within a routing. Each step is assigned an operation sequence number.

Work Center

Displays the work center code and the machine code, which together identify a work center for a valid routing and operation.

Test

This field displays the test ID associated with the test specification. If you are linking an item to a test ID, select or enter the test ID to associate to the item.

Test Description

A short description of the test.

Creating a Test Specification

Follow these steps to create a test specification:

1. In **Test Specifications**, select New.
2. Enter a unique test ID in the Test field.
3. Then enter the relevant information about the test specification in the Revision, Description, Category, and Reference fields.
4. In the Test Sample Plan sub-panel, enter the information that outlines the testing sample process.
5. Select Save. The test specification is added to the **Test Specifications** browse.
6. Add attributes to this test specification in the following ways:
   - Use the Copy Attributes from Item Profile action to copy the attributes from another item profile. See Copy Attributes From Item Profile on page 3893.
   - Use the Copy Attributes from Test Specificaiton action to copy attributes from another test specification. See Copy Attributes From Test Specification on page 3894
   - Manually add attributes by following the steps in Adding Attributes to a Test Specification on page 3888.
7. Link the test specification to items by following the steps in Linking an Item to a Test Specification on page 3890.

Revising a Released Test Specification

To make changes to a test specification in Release status, you must first make a copy of the test specification and then set the status to Draft.

Follow these steps to revise a released test specification:

1. In **Test Specifications**, select New.
2. In the Test field, enter the test ID of the test specification that you want to revise.
3. In the Revision field, enter a new revision number. Generally, you would enter the next sequential revision. For example, if the released test specification is revision A, then you would enter revision B.
4. Optionally, enter any remarks in the Reference field.
5. In the Test Sample Plan subpanel, enter the information that outlines the testing sample process.
6. Select Save. When you save the test specification, any items that were linked to the released test specification are automatically added to the Item Assignment panel.
7. Add attributes to this test specification in the following ways:

- Use the Copy Attributes from Item Profile action to copy the attributes from another item profile. See Copy Attributes From Item Profile on page 3893.
- Manually add attributes by following the steps in Adding Attributes to a Test Specification on page 3888.
- Use Test Specifications and select the Copy Attributes from Test Profile option, which allows you to copy the item attributes from one test specification to another test specification.

8. Once you have finalized the draft version of the test specification and you are ready to set to the status to Release, use the Release action. See Release on page 3892.

   When you release this revision of the test specification, the system displays a warning saying that the status of the released test specification will be set to Obsolete and the draft test specification will be set to Released.

Adding Attributes to a Test Specification

To add attributes to a test specification, the test must be in Draft status.

Follow these steps to add attributes to a test specification:

1. In **Test Specifications**, open the test specification.
2. In the Profile Attributes panel, select New. The Profile Attributes window opens.
3. In the Attribute field, select the attribute that you want to add to the test specification. When the attribute is selected, the Attribute Specification panel is added to the form.
4. Continue entering the necessary information in the Main panel by entering the Sequence, setting the Status (Inactive/Active), and determining if the attribute will print on sales orders, purchase orders, and production orders.
5. Define the attribute specifications by entering the relevant information in the Attribute Specification panel. Depending on the attribute datatype and the specification type, the fields in the Attribute Specification panel will vary.
6. Verify that the attribute's specification details are set up correctly by selecting Preview Specification.
   a. In the Specification Value field, enter an attribute value that conforms to the specifications that were set up.
   b. Select Test and verify that the Result field displays "Conforming."
   c. In the Specification field, enter an attribute value that does not conform to the specifications that were set up.
   d. Select Test and verify that the Result field displays "Non-conforming."

e. If you receive the wrong quality results, recheck the attribute specification settings and test again.

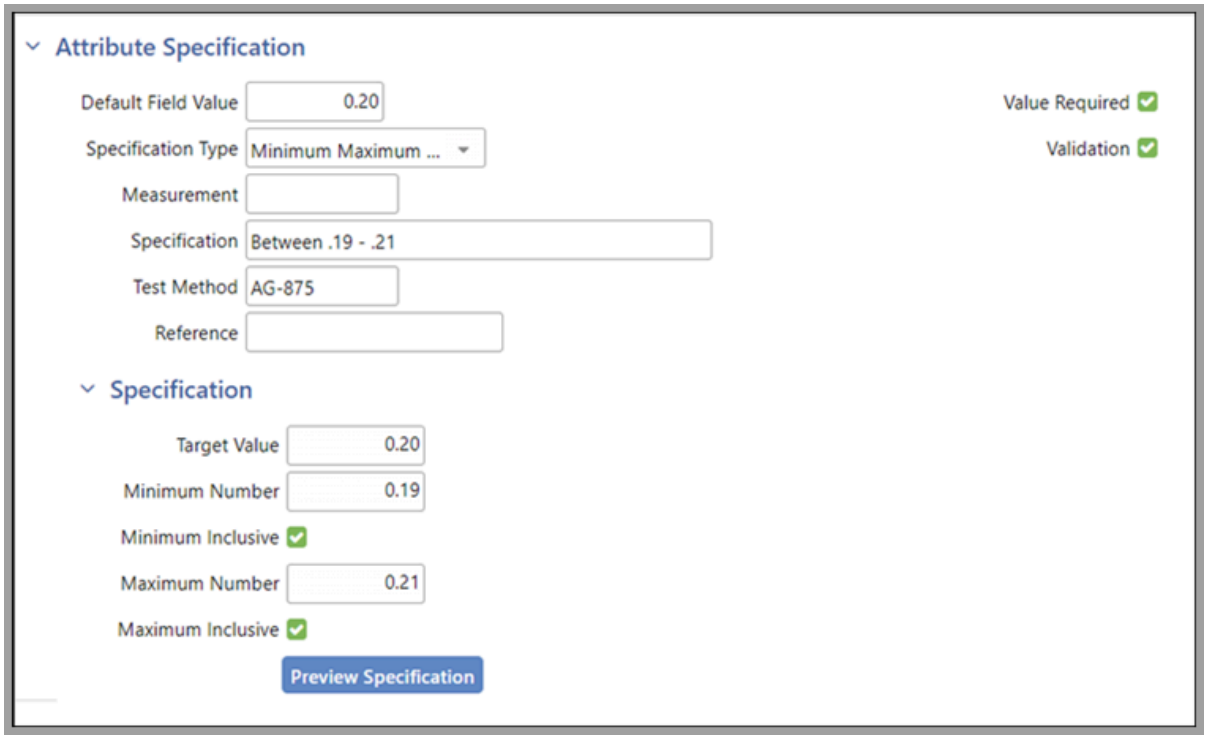
7. Select Save.

After the attribute has been saved, the attribute is displayed in the Attributes panel.

Verify Item Attribute Setup

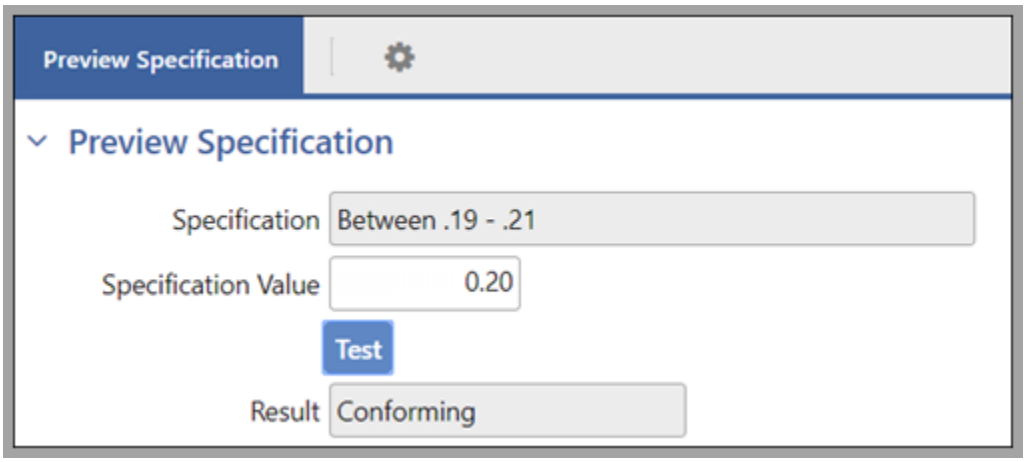
The Preview Specification window allows you to verify that you have properly set up a profile attribute, its specification type, and the specification details. You can test the setup by entering values for the attribute to see if the result is either conforming or non-conforming.

Note The Preview Specification button is not be available for attributes that are Logical datatypes and/or attributes where the Specification Type is set to None.

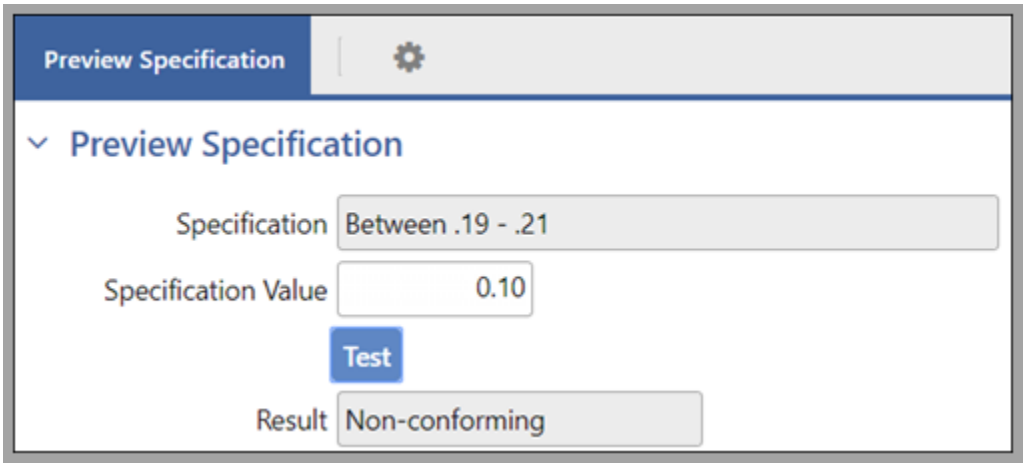


Follow these steps to check if the attribute specifications have been set up correctly:

1. In the Attribute Specification panel, Select Preview Specification.
2. In the Specification Value field, enter an attribute value that conforms to the specifications that were set up.
3. Select Test and verify that the Result field displays "Conforming."



4. In the Specification field, enter an attribute value that does not conform to the specifications that were set up.
5. Select Test and verify that the Result field displays "Non-conforming".



6. If you receive the wrong quality results, recheck the attribute specification settings and test again.

Linking an Item to a Test Specification

Because a test specification is defined and exists independently from items, you must define specific links between test specifications and items. The Item Assignment panel allows you to define links between an item and a test specification.

The link between a test specification and an item includes parameters that determine whether the test specification applies to the testing of an item lot or to a WIP operation.

- **Item Lot.** When a test specification applies to an inventory lot, you must specify an Item or Item and Site.

- **WIP Operation.** When a test specification applies to a WIP operation, you must specify an Item, Routing, and Operation, or an Item, Site, Routing, and Operation.

Note You can view existing linked information through the Item Test Specification Report.

Follow these steps to link a test specification to an item:

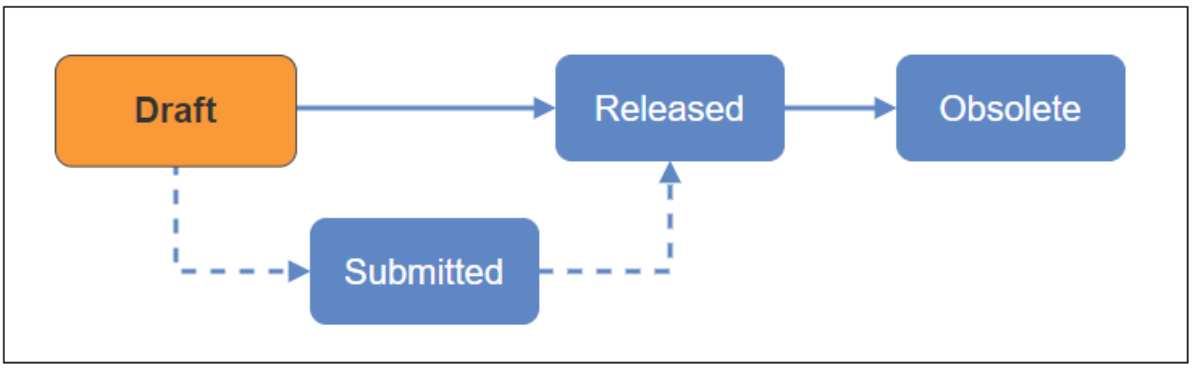
1. In the Item Assignment panel, select New.
2. In the Item field, enter the item that you want to link the test specification to.
3. Specify if the test specification applies to an item lot or a WIP operation by entering the relevant information in the Site, Routing, and Operation fields.
4. Determine the order in which the test specification prints on reports by entering the Sequence number.
5. Specify if the test specification is required by selecting or clearing the Required Test checkbox.
6. Select Done to save.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Move To Draft

Use the Move to Draft action to change the status of a test specification to Draft. In Draft status, the test specification can be edited and it cannot be referenced by test records.



The following fields can be edited while in Draft status:

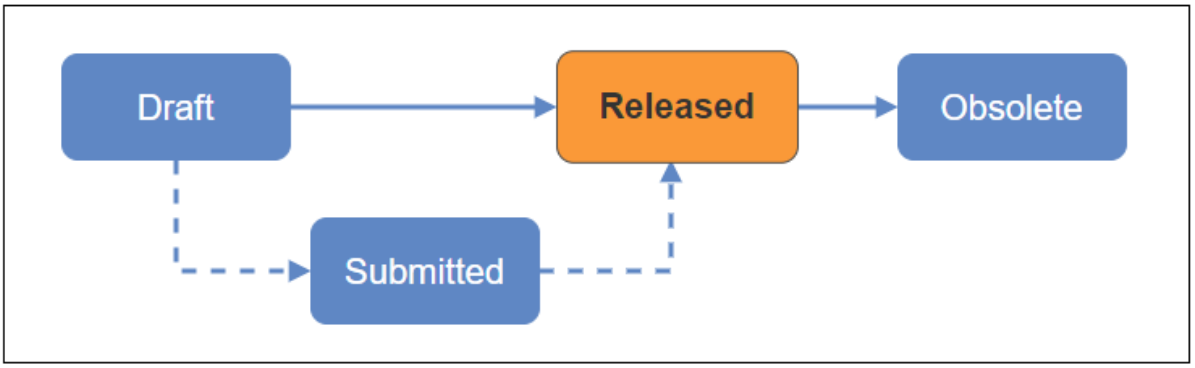
- Description

- Category
- Reference
- Test Sample Plan subpanel fields

By default, the status is set to Draft when a test specification is first created.

Release

In Released status, the test specification cannot be edited and can be referenced by test records for quality orders and for production order and production order operations.

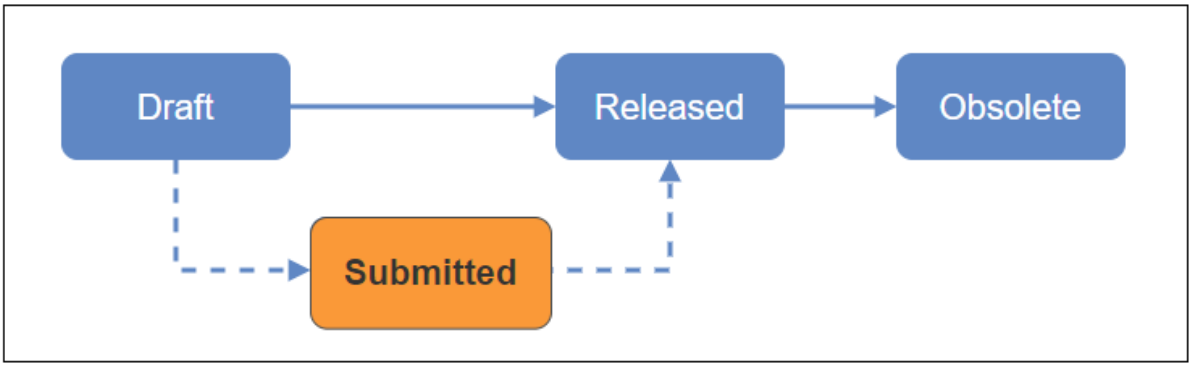


Only one test specification revision for a test ID can have a Released status at the same time. When a new revision for a test ID is released, a confirmation message is displayed asking if you want to make this the released revision. The status for the existing test specification for the test ID is then automatically changed to Obsolete.

When the status of a test specification is changed to Released, the Release Date and Released By fields in the Test Specifications Main panel are populated.

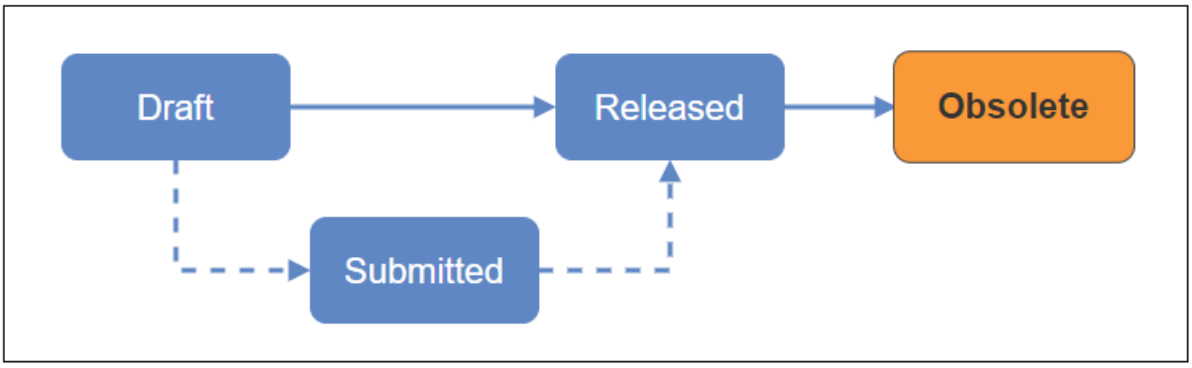
Submit

In Submitted status, the content of the test specification cannot be edited and it cannot be referenced by test records.



Obsolete

In Obsolete status, the content of the test specification cannot be edited and it cannot be referenced when the system creates test records for quality orders. You can manually create a test record for a test specification when its status is Obsolete.



When the status of a test specification is changed to Obsolete, the Obsolete Date and Obsoleted By fields in the Test Specifications Main panel are populated.

Copy Attributes From Item Profile

The Copy Attributes from Item Profile action gives users a quick and easy option for adding item attributes to a test specification by copying the attributes from an item attribute profile. When using this action, users can copy all attributes or copy a selected number.

Follow these steps to copy the attributes from an attribute profile to a test specification:

1. In **Test Specifications**, select the test specification that you want to copy the attributes to and then select the Copy Attributes from Item Profile action.
2. In the From Item field, enter the item profile that you want to copy the attributes from.
3. Select Search to display the list of attributes that can be copied from the item profile.

   Note The grid only shows new attributes that are not on the test specification. If there are attributes that already exist on the test specification, they will not be displayed in the grid.
4. Specify which attributes are copied by selecting the checkboxes. If the checkbox is not selected, it will not be copied to the test specification.
5. Select Submit to copy the selected attributes to the test specification.
6. When the new attributes are copied to the test specification, the attributes are added after the last attribute in the target test specification and the system automatically generates new sequence numbers for the new attributes.

Main

From Item

Enter the item attribute profile to copy the attributes from.

From Site

Displays the site for the item attribute profile that is selected in the From Item field.

To Test

Displays the test specification that you are copying the attributes to.

To Revision

Displays the revision for the test specification that is entered in the To Test field.

Attribute Grid

The grid at the bottom of the Main panel displays a list of attributes associated with the item attribute profile selected in the From Item and From Site fields. The grid only shows new attributes that are not on the test specification. If there are attributes that already exist on the test specification, they will not be displayed in the grid.

This grid displays the Sequence, Attribute ID, Attribute Description, and the Attribute Label.

Copy Attributes From Test Specification

The Copy Attributes from Test Specification action gives users a quick and easy option for adding item attributes to a test specification by copying the attributes from another test specification. When using this action, users can copy all attributes or copy a selected number.

Follow these steps to copy the attributes from a test specification to another test specification:

1. In **Test Specifications**, select the test specification that you want to copy the attributes to and then select the Copy Attributes from Test Specification action.
2. In the From Test field, enter the test specification that you want to copy the attributes from.
3. Select Search to display the list of attributes that can be copied from the test specification.

   Note If there are attributes that already exist on the test specification, the checkbox is cleared and read only.
4. Specify which attributes are copied by selecting the checkboxes. If the checkbox is not selected, it will not be copied to the test specification.
5. Select Submit to copy the selected attributes to the test specification. When the new attributes are copied to the test specification, the attributes are added after the last attribute in the target test

specification and the system automatically generates new sequence numbers for the new attributes.

6. The attributes that were copied are displayed in the Profile Attributes panel. For attributes that are copied from the test specification, the Attribute Level is Test.
7. If additional attributes need to be added to the test specification, repeat these steps to copy the specified attributes from other test specifications.

Main

From Test

Enter the test specification to copy the attributes from.

From Revision

Displays the revision level of the test specification that is selected in the From Test field.

To Test

Displays the test specification that you are copying the attributes to.

To Revision

Displays the revision level of the test specification that you are copying the attributes to.

Attribute Grid

The grid at the bottom of the Main panel displays a list of attributes associated with the test specification selected in the From Test and From Revision fields. This grid displays the Sequence, Attribute ID, Attribute Description, and the Attribute Label.

Test Specification Delete & Archive

This function allows you to clean the database of test specifications that are old and obsolete.

You can filter by Test, Revision, Category, Reference, and Status (Draft, Obsolete, Released, or Submitted).

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows you to see the test specifications that fall within the specified filter criteria before deleting and archiving the records.

To delete test specifications only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the test specifications based on the filter criteria specified.

To archive test specifications only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the test specifications. The name of the file is displayed on the report.

To archive and delete test specifications, set both the Archive and Delete options to Yes. Select Run and the system creates an archive file listing the deleted test specifications and then deletes the test specifications. The name of the file is displayed on the report.

Item Test Assignments

Because test specifications are defined and exist independently from items, you must define specific links between test specifications and items. **Item Test Assignments** allows you to define the links between an item and one or more test specification test IDs.

The link between a test specification and an item includes parameters that determine whether the test specification applies to the testing of an inventory lot or to a work-in-process operation. When a test specification applies to an inventory lot, you must specify an item or item and site. When it applies to a work-in-process operation, you must specify an item, routing, and operation, or an item, site, routing, and operation.

You can view existing linked information using the **Item Test Specification Links** Item Test report.

Main

Item

Enter the item number to associate with the test ID.

Site

Optionally, enter a site to associate with the item and test ID. If you specify a site, then only items at the chosen site link to the test specification.

Test

Enter the test ID to associate with the item.

Sequence

Enter a sequence number for the test specification for the item.

The sequence determines the order in which test specifications print on reports. To make it easier to add a test specification within the sequence later, it is recommended that you number the sequences as 10, 20, 30 rather than 1, 2, 3.

Required Test

Select this checkbox if the test is required for the item, item/site, or item, routing, and operation combination.

When a test specification is required, then an automatically created test record for that test specification must be either completed and closed or canceled. It cannot be deleted. The default is cleared.

Routing

For WIP, enter a valid routing or process code. If you enter a routing code, the test specification triggers only when the item uses that code.

Operation

Enter a number identifying a step within a specific routing code. Operations are uniquely numbered and sequenced steps within a routing. Each step is assigned an operation sequence number.

Work Center

Displays the work center code and the machine code, which together identify a work center for a valid routing and operation.

Production Order Operation Test Records

Production Order Operation Test Records provides functionality similar to **Quality Orders** so that you can manage production order operation test records.

The browse displays all the test records for each production order operation that is linked to a test specification. For example, if an item is set up for in-process testing at production order operations 30, 40, and 50, then when a production order is created for that item, the three test records for operations 30, 40, and 50 are displayed in this browse. When that item reaches operations 30, 40, and 50, the technicians can then use **Production Order Operation Test Records** to enter the test attributes associated with the tests.

To manage the in-process testing of inventory, **Production Order Operation Test Records** allows you to perform the following tasks:

Note The functionality to perform these tasks is the same as in **Quality Orders**. See the links below for more information about performing the tasks.

- **Entering Test Record Attributes.** You can enter test record attributes for production order operations in the Test Records grid or the Test Records Details screen. See Entering Test Record Attribute Values in Test Records Grid on page 3872 and Entering Test Record Attribute Values in Details Screens on page 3872.
- **Processing Test Records.** Use the Test Records Action menu to move the test record through its lifecycle. These actions include opening, closing, and canceling test records; routing them for review; and moving them to results pending. See Quality Orders on page 3830.

  Note When you close a test record in **Production Order Operation Test Records**, there is no material disposition and the test record itself does not have a status. When the test record is closed, its status remains Open until the production order is closed.
- **Creating a Production Order Operation Test Record.** Create new production order operation test records so that you can perform additional tests that were not automatically created. See Creating a Production Operation Test Record on page 3900.
- **Deleting a Production Order Operation Test Record.** If necessary, you can delete a manually created production order operation test record by opening the test record and selecting Delete.

  Note You can only delete a production order operation test record if there are no tests on the test record. You must first delete any associated tests before deleting the production order operation test record.

- **Adding/Deleting Tests.** Add and delete tests on a production order operation test record so that you can perform any testing that is required during production. See Adding a Test Record to a Quality Order on page 3873 and Deleting a Test Record from a Quality Order on page 3873.
- **Adding/Deleting Attributes.** Add and delete attributes on tests on a production order operation test record so that you can test for attributes that were not automatically created. See Adding Attributes to a Test Record on page 3874 and Deleting Attributes from a Test Record on page 3874.

Main

The Main panel displays information associated with the production order. For field information, see Production Orders on page 3508.

Operation

The Operation panel displays information associated with the production order operation. For field information, see Production Order Routings on page 3565.

Test Records

The Test Records grid displays the test records and the associated attributes linked to the production order operation. For field information, see Quality Orders on page 3830.

Creating a Production Operation Test Record

To add a test record to a production order operation:

- The production order must be in Released or Closed status.
- The test added to the production order operation must be Released.

Follow these steps to create a production order operation test record:

1. In **Production Order Operation Test Records**, select New.
2. In the Production Order field, enter the production order number. The associated production order ID is automatically filled in.
3. In the Operation field, enter the operation number where the quality test will be performed.

   Note The operation must exist based on the production order routing; otherwise, the system displays an error.
4. Optionally, specify the operator in the Operator field.
5. In the Test Records panel, add the test that will be performed at the operation.

   Note The test must be in Released status; otherwise, the system displays an error.
6. Select Save.

Certificate of Analysis Print

The Certificate of Analysis (COA) is evidence of quality control and compliance for material. It serves as the documentation of the test results for material characteristics, specifications, and acceptance criteria and for a lot's attributes and information on how the results were obtained. It is the published product of the quality control process.

Use **Certificate of Analysis Print** to print the initial COA. To reprint a COA, use **Certificate of Analysis Reprint**.

The Certificate of Analysis can be only be printed for quality orders (lot and quality type) in Closed status, provided that the attributes have been properly set up in **Item Attribute Profiles**.

You can print common certificates for an item lot—without regard to a specific sales order—by just entering the quality order in the Quality Order field. Or, you can print certificates for specific sales order line items by entering the information in the Sales Order and Line fields. In both cases, the quality orders associated with the item lot must be Closed.

To print a simulation, set the Update field to No. Printing in Simulation mode allows you to verify that the certificate prints with the correct attributes. When the Update field is set to Yes, the Simulation mode is turned off and the system records the Certificate of Analysis and generates a Certificate ID. The Certificate ID is printed on the certificate and is displayed in the Last COA Printed field in the Quality Orders browse. The ID can be used to reprint a COA at a later date or time, with the same attribute values and attribute specifications, even if the lot attribute values have changed since the time it was first printed.

Note You must run the September 2020 version of the Sales App with the Quality Orders App; otherwise, company data does not display when you print the Certificate of Analysis.

Filter

Order

Enter the quality order number associated with the item lot or sublot.

Sales Order

Optionally, enter a sales order.

Line

Optionally, enter a sales order line.

Print Grade

Enter Yes to print the value for grade from the quality order on the certificate of analysis.

Print Assay Percent

Enter Yes to print the value for assay from the quality order on the certificate of analysis.

Print Expiration Date

Enter Yes to print the value for expiration date from the quality order on the certificate of analysis.

Print Manufacture Date

Enter Yes to print the value for manufacture date from the quality order on the certificate of analysis.

Effective Date

Enter the effective date for the certificate of analysis.

Reprint Last Certificate

If a certificate of analysis has been printed for a quality order, enter Yes to reprint the last certificate of analysis for that quality order.

Update

This field determines whether or not the certificate of analysis is printed in simulation mode:

- **No.** If No, the certificate of analysis is printed in simulation mode. Printing in simulation mode allows users to verify that the certificate runs with the correct attributes listed.
- **Yes.** If Yes, the system creates the certificate of analysis, generates a certificate of analysis number, and adds it to the document.

E-Sig Reason Code

Enter a valid signature reason code defined in **Reason Codes** for reason type ESIG. Use the look-up to view the list of valid reason codes.

The system includes this code in the electronic signature record to define the meaning of the signature.

Note When e-signature functionality is enabled for Certificate of Analysis, the windows to capture the Signature, Password, Reason Code, and Remarks do not appear. Instead an E-Signature Event record is created in the background (one for every COA being reported), and the values entered in the E-Sig Reason Code and E-Sig Remarks fields are populated in those E-Signature Event records. When e-signature functionality is not enabled for Certificate of Analysis, the value in this field is ignored.

E-Sig Remarks

Optionally enter remarks (up to 60 characters) related to this signature. Remarks are stored as part of the electronic signature record.

Note When e-signature functionality is enabled for Certificate of Analysis, the windows to capture the Signature, Password, Reason Code, and Remarks do not appear. Instead an E-Signature Event record is created in the background (one for for every COA being reported), and the values entered in the E-Sig Reason Code and E-Sig Remarks fields are populated in those E-Signature Event records. When e-signature functionality is not enabled for Certificate of Analysis, the value in this field is ignored.

Include Component COA

Enter Yes if you have a multilevel finished item and you want to print the certificate of analysis attribute values for the component lots along with the attribute values of the finished good lot.

Certificate of Analysis Reprint

Note You must run the September 2020 version of the Sales App with the Quality Orders App; otherwise, company data does not display when you print the Certificate of Analysis.

Filter

Certificate ID

Enter the certificate of analysis number, which is printed on the certificate and is displayed in the Last COA Printed field in the Quality Orders browse.

Message

Optionally, enter any remarks to be printed on the certificate of analysis document.

Include Component COA

Enter Yes if you have a multilevel finished item and you want to print the certificate of analysis attribute values for the component lots along with the attribute values of the finished good lot.

Certificate of Analysis Delete & Archive

This function allows you to clean the database of COAs that are old and obsolete.

You can filter by Certificate ID, Certificate Date, Sales Order, Line, Item, Site, Lot/Serial, Sublot, Quality Order, and Order Type (Lot or Quality).

To run this function in Simulation mode, set the Delete and Archive options to No and then select Run. Simulation mode allows you to see the COAs that fall within the specified filter criteria before deleting and archiving the COAs.

To delete COAs only, set the Delete option to Yes and the Archive option to No. Select Run and the system deletes the COAs based on the filter criteria specified.

To archive COAs only, set the Archive option to Yes and the Delete option to No. Select Run and the system creates an archive file listing the COAs. The name of the file is displayed on the report.

To archive and delete COAs, set both the Archive and Delete options to Yes. Select Run; the system creates an archive file listing the deleted COAs and then deletes the COAs. The name of the file is displayed on the report.

Quality Control

Certificate of Analysis

The Certificate of Analysis panel contains fields that determine the content of a certificate of analysis for quality orders.

Certificate of Analysis Sequence ID

Enter the NRM sequence code used to create identification numbers for printed certificates of analysis. The system uses this code to generate sequence numbers for all certifications. When setting up the sequence in NRM, use a target qlcoa_id dataset.

For information on setting up NRM sequences, see *QAD System Administration User Guide*.

Print Grade

Select this option to print the quality order value for grade on the certificate of analysis document. The system does not print the grade value if this option is not selected. By default, this option is not selected.

Print Assay %

Select this option to print the quality order value for assay% on the certificate of analysis document. The system does not print the assay % value if this option is not selected. By default, this option is not selected.

Print Expire Date

Select this option to print the quality order value for expiration date on the certificate of analysis document. The system does not print the expiration date if this option is not selected. By default, this option is not selected.

Print Manufacture Date

This option sets the default value for the Print Manufacture Date field in **Certificate of Analysis Print**. If this option is selected, the default value of the Print Manufacture Date field will be set to Yes. When the Print Manufacture Date field is set to Yes, the attribute value for the manufacture date will print on the certificate of analysis document.

Quality

Quality Order Sequence ID

Enter the NRM sequence code that determines the ID for quality orders (quality type). The system uses this code to generate sequence

numbers for all quality orders (quality type). When setting up the sequence in NRM, use a ql_id target dataset.

For information on setting up NRM sequences, see the *QAD System Administration User Guide*.

Lot Order Sequence ID

Enter the Number Range Management (NRM) sequence used to automatically assign the ID for quality orders (lot type). The system uses this code to generate sequence numbers for all quality order (lot type). When setting up the sequence in NRM, use ql_id as the target dataset.

For information on setting up NRM sequences, see the *QAD System Administration User Guide*.

Note In QAD .NET UI, the Lot Order Sequence ID is defined in Item Attribute Control on the Lot Attribute Order Sequence ID field.

Test Result Sequence ID

Enter the NRM sequence code that determines the ID for test records. The system uses this code to generate sequence numbers for all test records. When setting up the sequence in NRM, use a qltr_id target dataset.

For information on setting up NRM sequences, see *QAD System Administration User Guide*.

Display Specification for Results Entry

This option determines if the Specification and Specification Details fields are visible or blank for a quality order (quality type) in the following:

- **Quality Orders** > Test Records Details screen > Test Attributes browse
- **Quality Orders** > Attributes Details screen > Attributes browse
- In QAD .NET UI, in the Maintain Quality Orders Collections > Quality Order Attributes tab and Test Record Attributes tab

This is useful if you do not want users to be influenced by an attribute's specifications when entering values for those attributes.

When this option is selected, the values in the Specification and Specification Details fields are visible. When not selected, the values in the Specification and Specification Details fields are blank.

Note To make similar changes to the browses for quality orders (quality type), use the Display Specification for Results Entry option in **Inventory Control**.

Note To hide the Specification and Specification Details fields in grids on Quality Orders for specific roles, use **Role Permissions**. For more information, see the *QAD Adaptive UX Implementation Guide*.

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QMS Integration

Select CAPA/NCR to activate the integration between the QAD EE Quality module and the QAD QMS NCR/CAPA module. Otherwise, select None.

Transaction History

Transaction History records (tr_hist) maintain a history of transaction details, such as the transaction number and how inventory or sometimes costs were impacted by transactions. You can use transaction history information as an audit against the actual GL postings that were created by the transaction.

Inventory Transactions

Inventory Transactions includes the following information:

- Information about the inventory history transaction
- Information about how inventory was impacted
- Information about how GL was impacted with unit and extended costs

Main

Transaction

Each transaction history record is uniquely identified by a transaction number, assigned by the system. Use transaction numbers to select and sort information on reports and inquiries. Transactions usually appear in descending sequence by date and transaction number.

Transactions are assigned sequentially across the entire database. When a database has multiple active domains, transaction numbers within a domain may appear to have gaps because of the numbers assigned in other domains.

The system automatically assigns transaction numbers beginning with 1. Once the number reaches 99999999, the system resets the number to 1 and starts over. If you have deleted some, but not all, transaction history, the system only assigns unused numbers. Duplicate numbers cannot occur.

Transaction Type

Transaction type codes identify the source of an inventory transaction record maintained in transaction history. The system also uses them to determine records to display on reports. For example, a Sales Booking Report only includes booking transactions of type ORD-SO. Item and inventory status codes can restrict inventory transactions by type code.

Date

The default is the system date. The date this transaction was processed.

Transaction date can be used for selecting information to appear on reports and inquiries, and for deleting and archiving transaction history.

The date of the transaction may differ from the Effective Date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end, these are often different. For example, if the period ends on Friday but you are still processing receipts on Monday, you may set the effective date to Friday’s date but the entered date is Monday’s date.

Time

The time this transaction was processed.

Effective Date

The general ledger effective date associated with this inventory transaction. The default is the system date.

The effective date determines when the general ledger transaction created by this transaction affects general ledger balances. A work order does not increase the balance in the general ledger inventory account until this effective date. Inventory quantity on hand is affected immediately upon processing the receipt, regardless of the effective date.

The date of the transaction may differ from the Effective Date. Date is usually when the transaction was actually entered into the system. Effective date is when the transaction is to affect the general ledger. At period end, these are often different. For example, if the period ends on Friday, but you are still processing receipts on Monday, you may set the effective date to Friday's date but the entered date is Monday's date.

Remarks

Any remarks associated with this transaction. Usually, these identify the source or the reason for the transaction. For example, remarks can indicate the document number associated with an unplanned transaction. When transactions are recorded in other modules, such as sales, the system sometimes stores information (the packing list or invoice number) in the Remarks field.

This field is for reference only and may appear on some selected reports and inquiries.

User ID

The system records and displays the ID of the user who processed this inventory transaction.

This Reference field appears on selected reports and inquiries.

Program

The Progress program that created this transaction history record. For example, an unplanned issue transaction history record (ISS-UNP) is created by the program icunis.p.

This field is for reference only and may appear on some selected reports and inquiries.

Currency

This field displays the currency code associated with this inventory transaction. Currency codes identify monetary units and form the basis of exchange rate relationships.

Each domain has a base currency. You can specify foreign currencies during sales, purchasing, service, and accounting transactions. Each

currency must be predefined and a valid exchange rate must exist for the transaction effective date.

When transactions are processed in non-base currency, the currency code and exchange rate are maintained in transaction history along with the price. This lets you review prices in terms of your company base currency or the foreign currency. Costs are always stated in your company base currency. Only prices can be held in another currency.

Shipper

The identifying number that represents the shipper associated with this transaction. The combination of supplier and shipper ID uniquely identifies a shipper record.

Ship Date

This is a system-maintained field that records the last date a shipment was processed for this order. Invoices and commission reports may be printed for a range of ship dates. The default is the effective date entered on the shipment transaction, which is normally the system date.

Inventory Movement Code

Inventory movement codes assigned by the system include the following:

Inventory Movement Code	Description
CST-ADJ	Cost Adjustment
CUM-RADJ	Cumulative Received Adjustment
CUM-RRES	Cumulative Received Reset
CUM-SADJ	Cumulative Shipped Adjustment
CUM-SRES	Cumulative Shipped Reset
CYC-CNT	Cycle Count Adjustment
CYC-ERR	Cycle Count Error
CYC-RCNT	Cycle Count Recount
ISS-CHL/RCT-CHL	Change Inventory Detail
ISS-DO/RCT-GIT	Distribution Order Shipment
ISS-GIT/RCT-DO	Distribution Order Receipt
ISS-FAS/RCT-FAS	Final Assembly Order
ISS-PRV	Purchase Return to Supplier
ISS-RV	Inventory Return to Supplier

Inventory Movement Code	Description
ISS-SO	Sales Order Shipment
ISS-TR/RCT-TR	Inventory Transfer
ISS-UNP/RCT-UNP	Unplanned Issue/Receipt
ISS-WO/RCT-WO	Work Order Issue/Receipt
ORD-PO	Purchase Order Booking
ORD-SO	Sales Order Booking
ORD-SEO	Material Order Booking
PLCG-ADJ	Product Line Change
RCT-PO	Purchase Order Receipt
RCT-RS	Inventory Return to Stock
RCT-SOR	Inventory Sales Order Return
RJCT-WO	Work Order Reject
TAG-CNT	Physical Inventory Update
WIP-ADJ	Work in Process Adjustment
WO-CLOSE	Work Order Close

Order

The order number associated with this inventory transaction.

When an unplanned inventory transaction is processed, you can manually enter an order number for the record. When an inventory transaction is processed in another module, such as sales, the order number remains in transaction history.

Some reports and inquiries can be selected by order number. Order number may be a sales order number, work order number, purchase order number, RMA/RTS number, or any other user-defined value.

Note An order number entered on an unplanned inventory transaction is for reference only. The system does not access this information from other modules. For example, if you enter a work order number on an unplanned issue, it does not appear on the Work Order Cost Report.

ID

The lot identification number associated with this inventory transaction.

Throughout the system, lot ID numbers uniquely identify the source of inventory transactions, allowing complete lot/serial number traceability. The system usually assigns a unique lot ID number to sales and

purchase orders. You may manually assign lot ID numbers to work orders or let the system assign them.

Some reports and inquiries may be selected by lot ID.

Order Revision

The revision number of the order associated with this inventory transaction. Each time a purchase order or sales order is changed, the revision number can be increased by 1. This field is for reference only and may appear on some selected reports and inquiries.

Line

Identifies the order or pending invoice line number associated with this transaction.

Item

The item code associated with this inventory transaction. This can be a new item to receive or an item that is not normally expected for a base process or a joint work order set.

Item codes uniquely identify items or products such as raw materials, purchased or manufactured intermediates, finished items, packaging materials. Item codes also identify planning items, configured products, service kits, and repair parts used in service activities.

Transaction history is maintained by, and all reports can be selected by, item code. Usually, this is an inventory item, so beginning and ending inventory balances are maintained. Transactions can also be entered for non-inventory items such as invoices for services or purchases of miscellaneous supplies. These are indicated by a transaction type M for memo, and do not affect inventory balances.

Description 1

The primary description of the item (up to 24 characters) associated with this transaction. You can supply two lines of description.

You can use the primary description to look up item codes. The first description line appears on all reports, inquiries, and printed documents.

The second line of description provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Description 2

The second line of description of the item associated with this transaction. Provides additional or supplementary information. It prints on most reports, inquiries, and documents, as space permits.

Unit of Measure

The unit of measure of the inventory transaction quantity. It is validated against predefined values entered in the Generalized Codes view, if any.

You can process any inventory transaction using an alternate unit of measure. In this case, the system accesses the appropriate conversion factor defined in the UM Conversions view. For example, the item may be held in inventory in the unit of measure EA but sold or purchased in a case (CS) of 25. If you enter the unit of measure CS, the system displays a UM conversion of 25. The cost and inventory quantity adjust automatically when this item is shipped or received.

If the alternate unit of measure has not been predefined in the UM Conversions view, a warning displays and the UM Conversion remains at 1.0000. Adjust it manually.

The unit of measure is maintained for auditing and is especially useful when investigating incorrect inventory balances. Check the unit of measure to ensure the correct conversion factor was entered. This could be the source of your error.

Price

This field displays the price or cost associated with this inventory transaction. Costs are in base currency. Prices are in the transaction currency, which can be a foreign currency.

Currency codes identify monetary units and form the basis of exchange rate relationships. Each domain has a base currency. You can specify foreign currencies during sales, purchasing, service, and accounting transactions. Each currency must be predefined and a valid exchange rate must exist for the transaction effective date.

When transactions are processed in another currency, the currency code and exchange rate are maintained in transaction history, along with the price. This allows you to review prices in terms of your company base currency or the foreign currency.

Price prints on most transaction reports and inquiries, in particular Sales Bookings and Purchase Transaction reports.

Prices are most important for sales orders, service/support orders, and purchase orders. This records the price you charge the customer or the price the supplier charges you. A negative price indicates a credit. Manufacturing and inventory activities not associated with an order normally store the total GL cost in base currency in the price field.

Address

An optional address code associated with this transaction. Address code uniquely identifies a name and address record, usually of a customer or supplier. This field is not displayed for scrap transactions.

The Address Name is displayed to the right of the Address field. The address name is the name associated with this address—normally, the company name (The ABC Company) or the individual's complete name (Mr. David Green).

When an unplanned inventory transaction or inventory transfer is processed, you can manually enter an address code for the record. When an inventory transaction is processed in another module, such as sales, the customer address code is kept in transaction history.

This field is for reference only and may appear on some selected reports and inquiries. Some reports and inquiries may be selected by address code.

Sales Order Job

An optional sales/job number associated with this transaction. This field is not displayed for scrap transactions.

When an inventory transaction is processed in the Purchasing or Work Order modules, the sales/job number entered on the order remains in transaction history. When an unplanned inventory transaction or inventory transfer is processed, you can manually enter a sales/job number for the record.

This field is for reference only and may appear on some selected reports and inquiries. Some reports and inquiries may be selected by sales/job number.

Sales/job numbers can be referenced on sales orders, purchase orders, work orders, and inventory transactions so you can review the progress of all activities associated with a particular sales order, contract, or job number. Sales/job numbers are not validated and have no GL affect.

Ship Type

The ship type associated with this transaction. Ship Type indicates whether shipments of this item are to affect inventory balances. Type defaults from Memo Order Type field in the Items view, if defined for the order line site. If the item is not defined, type defaults to M (memo). This field is not displayed for scrap transactions.

If Blank, this line item ships from inventory. When the shipment is processed, inventory balances are decreased, a general ledger (GL) transaction credits the Inventory account, and forecast is consumed.

If Non-blank, this shipment does not affect inventory, does not create a GL Inventory transaction, and does not consume forecast. While a non-

blank ship type prevents the update of the Inventory account, Accounts Receivable (AR) balances are updated, regardless of the ship type.

This field is validated against codes defined in the Generalized Codes view for field sod_type. You cannot modify this field after a quantity has been shipped or invoiced.

Reason

The reason code for the scrap transaction. A short description of the reason code is displayed to the right of the reason code. The Reason field is only displayed for scrap transactions.

Employee

The employee code of the person who created the inventory scrap transaction. This field is only displayed for scrap transactions.

Authorization Document

The ID number for the document that authorizes the scrap transaction. Some reports and inquiries can be selected by document ID number. This field is only displayed for scrap transactions.

Inventory

Site

The site at which this inventory transaction was processed.

Site codes identify areas where inventory is manufactured or stored, such as, an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually, each site is split into multiple locations, where the inventory is actually stored, so you may think of a site as a group of physical locations such as stockrooms, inspection stations, shop floors.

Location

The location code associated with this inventory transaction.

Location codes identify physical locations where inventory is stored. Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction, including issues, receipts, transfers, and counts.

Location code can be used to select specific information to appear on reports and inquiries.

Lot/Serial

The lot/serial number that applies to this line item.

Reference

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities.

Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

Inventory detail information is stored by Item Number, Site, Location, Lot/Serial, and Ref number. Details kept for each combination include the quantity on hand and inventory attributes such as Assay %, Grade, Expire Date, and Status Code.

Inventory Status

The status of inventory in this location for the item and quantity on this transaction. Inventory status codes determine whether inventory at a site or location is:

- Available for sales order and work order allocations. Allocations reserve inventory and assist in picking inventory to be shipped or issued.
- Considered nettable by Material Requirements Planning (MRP) calculations.
- Issued even if the site or location has a zero or negative inventory balance. Typically, overissues are not allowed for items that are lot or serial controlled.

Inventory status codes also restrict particular transactions at specific locations—you can restrict issues from an inspection location.

Inventory status codes are assigned when items are received by inventory. They can be changed using the Inventory Detail view. PO Rcpt Status assigns a default inventory status code for purchase order receipts. WO Rcpt Status assigns a default inventory status code to work order receipts.

Supplier Lot

The external lot number provided by the supplier/vendor for the item associated with this transaction.

Grade

The grade associated with this inventory quantity. Usually, identifies the quality or physical properties. Graded products include raw materials, intermediates, or finished goods.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking

ingredients. Grade may determine the price charged for the finished product. Some customers may require a certain grade.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes module. If these are blank or if the Regulatory Attributes module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes —Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view. They can also be changed in Multi-Lot Inventory Detail Update in the Regulatory Attributes module.

Assay Percentage

The assay percentage associated with this inventory quantity. Usually identifies the percent solution.

When allocating items, Assay % and Grade can be important. Specific formulations may require a minimum assay percentage or grade. These values are reviewed on the screen prior to allocating or picking ingredients.

Default values for Assay % and Grade are set in Production Order Attributes in the Regulatory Attributes Module. If these are blank or if the Regulatory Attributes Module is not active, values come from existing inventory detail records. If there are no existing records, Assay % is set to 0.00% and Grade is set to blank.

Inventory attributes—Expire Date, Grade, Assay %, and Inventory Status—are changed in the Inventory Detail view.

Expire Date

Enter the expiration date associated with this specific inventory quantity.

The system calculates an expiration date when an item is received into inventory by adding the number of days specified for shelf life to the receipt date. The system searches for a value for shelf life in this order:

- For the item and site in the Items view
- For the item in the Items view

Shelf life is typically defined for items that spoil or degrade over time. Inventory that has expired does not appear on picklists as a quantity

to be picked. If you try to ship or issue expired inventory, an error message displays and you cannot continue.

You can impose additional restrictions by setting Issue Days in Inventory Control. For example, if Issue Days is 5, you cannot ship or issue inventory that will expire within the next five days.

You can modify inventory attributes such as expire date, grade, assay %, and inventory status using:

- Inventory Detail view

Batch

Batch numbers are used to group and categorize work orders. A group of work orders that is run through a single manufacturing process can be assigned the same batch number.

The Batch number field is stored in the work order master and in transaction history. This field is for reference and tracking.

One batch number can be assigned to many work orders. You can use the batch number to report on a group of work orders. Some functions use batch number as the only index for reports or inquiries.

Begin Balance

The inventory balance of the item in all locations at the site before the transaction was processed.

Quantity Change

The total quantity processed on this inventory transaction.

On a shipment, issue, or transfer, the quantity taken out of stock. On a purchase order or a work order receipt, the quantity received into stock.

The beginning quantity on hand, transaction quantity, and transaction type can help track problems, such as cycle count errors. You can review the inventory transactions for an item and the effect of each. If the ending quantity is equal to the beginning quantity on hand, check the transaction type. It must have been processed as a non-inventory transaction and may be the source of your error.

This field is only updated when an item exists in the item master and the inventory transaction was processed at a nettable location. If the location status is non-nettable, only the tr_loc_chg is updated.

End Balance

The inventory balance of the item in all locations at the site after the transaction was processed.

Begin Location Balance

The inventory balance of the item, lot number, and reference in the specified site and location before the transaction was processed.

Location Quantity Change

The quantity processed on this inventory transaction applying to this site and location.

On a shipment, issue, or transfer, the quantity taken out of stock. On a purchase order or work order receipt, the quantity received into stock.

The beginning quantity on hand, transaction quantity, and transaction type can help track problems, such as cycle count errors. You can review the inventory transactions for an item and the effect of each. If the ending quantity is equal to the beginning quantity on hand, check the transaction type. It must have been processed as a non-inventory transaction and may be the source of your error.

This field is only updated when an item exists in the item master and the inventory transaction was processed at a nettable location. If the location status is non-nettable, only the tr_loc_chg is updated.

End Location Balance

The inventory balance of the item, lot number, and reference in the specified site and location after the transaction was processed.

Quantity Required

The total quantity required before this inventory transaction was processed.

When an inventory transaction is processed in another module, the system tracks the original quantity required, the transaction quantity, and the quantity short. For example, if this is a sale order shipment:

- The quantity required is the open order quantity.
- The transaction quantity is the quantity shipped.
- The quantity short is the difference.

This field is for reference only and may appear on some selected reports and inquiries. Useful for comparing what was needed or expected with what was transacted.

Quantity Short

Any shortage associated with this inventory transaction.

When an inventory transaction is processed in another module, the system tracks the original quantity required, the transaction quantity, and the quantity short. For example, if this is a sale order shipment:

- The quantity required is the open order quantity.
- The transaction quantity is the quantity shipped.

- The quantity short is the difference.

This field is for reference only and may appear on some selected reports and inquiries. Useful for comparing what was needed or expected with what was transacted.

GL Cost

Material

The material cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Labor

The labor cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Burden

The burden cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Overhead

The overhead cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Subcontract

The subcontract cost of the item associated with this transaction. Cost elements include material, labor, burden, overhead, or subcontract.

Unit Cost

The total cost of the item associated with this transaction. The cost total equals the sum total of the material, labor, burden, overhead, and subcontract costs.

Extended Material

This cost is calculated by multiplying the Material cost by Location Quantity Change.

Extended Labor

This cost is calculated by multiplying Labor cost by Location Quantity Change.

Extended Burden

This cost is calculated by multiplying Burden cost by Location Quantity Change.

Extended Overhead

This cost is calculated by multiplying Overhead cost by Location Quantity Change.

Extended Subcontract

This cost is calculated by multiplying Subcontract cost by Location Quantity Change.

Extended Cost

This cost is calculated by multiplying Cost Total by Location Quantity Change.

Accounts

The Accounts grid displays GL transaction data related the selected transaction, including the GL Transaction Type, Account, Sub-Account, Cost Center, Project, BC (Base Currency) Debit, BC Credit, GL Reference, and Reference ID.

Note The Entity Code in the Accounts panel always displays based on the site in the transaction.

E-Signature

Date

The date the e-signature was created.

Time

The time the e-signature was created.

User

The user who signed the e-signature.

Event ID

The system automatically assigns a unique event ID each time an electronic signature is created.

Category

A category is a QAD-provided definition of a set of system data that can be signed as a unit in certain menu programs. For example, it identifies a set of tables and fields, as well as the menu program or programs from which this data can be signed.

Because records in a given database table can be updated by more than one program, a category can be associated with more than one menu program. Conversely, a program can update more than one table; multiple categories can apply to a single menu program.

For example, the Operation History category (0003) generates signatures for tables and fields that store operation history information. Since these tables can be updated from several Shop Floor Control programs, several programs are included in the category. Because those same programs can also update records associated with quality results, they are included in the Quality Results category (0002) as well.Users cannot update category definitions. Instead, QAD provides

a default profile for each category. You can refresh the workbench profiles with these defaults and modify them based on the specific needs of your environment.

Category definitions include a default set of filters that can be used to determine whether a signature is required based on a given value for a site, item number, or other data element. Although filters are defined for each category, their use is optional; control how filters apply to your implementation by updating the category profile using the workbench.

For more information, see *QAD Security Administration Guide*.

Reason

The signature reason code is a critical element of the electronic signature. In regulatory environments, the signature record typically must include the meaning of the signature. The system uses reason codes to provide the meaning.

Each time the system prompts for an electronic signature, the user must provide a valid reason code. For example, reason codes might indicate that a quality record has been approved, reviewed, or inspected.

Use the Reason Codes view to define signature reason codes that are appropriate to your environment.

Note All reason codes used by electronic signatures must be associated with the QAD-provided ESIG reason type. Reasons of any other type cannot be entered in the signature prompt frame.

Remarks

Additional remarks that the user can optionally add while entering electronic signature data.

WIP Lot Trace

The WIP Lot Trace grid displays WIP lot trace data for the inventory transaction, including Produced/Consumed, Item, Item Description, Lot/Serial, Reference, Quantity, and Unit of Measure.

Operational Transaction Post

In a production system, most GL transactions originate from operational transactions, such as manufacturing, purchasing, and inventory movements. The system collects most operational transactions in an unposted transaction table. You can review the transactions to ensure that amounts, accounts, and dates are correct. Once the transactions are verified, you must post them to update GL account balances.

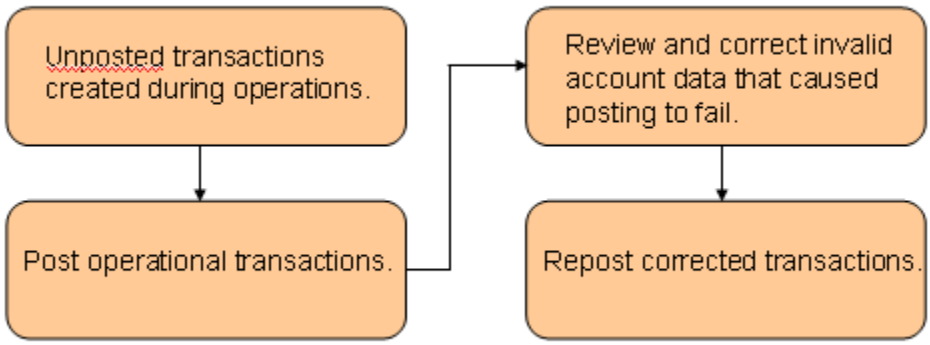
Operational transactions fall into four areas:

- Inventory Control (IC)
- Work Order (WO)
- Fixed Assets (FA)
- A limited number of sales order (SO) transactions
- Advanced Self Billing Accrual Transactions (SB)

Note Invoicing sales orders using Invoice Post directly updates the GL.

The graphic illustrates the process flow for operational transactions.

Operational Transaction Flow



Filter

Entity

Specify the range of entities for which you want to post transactions. You must have security access to all entities in the specified range. The default is the current entity.

Effective Date

Specify the range of dates for which you want to post transactions. Leave the fields blank to begin with the first date on which transactions exist. The default range is the last two weeks.

Daybook

Specify a range of daybook codes for which you want to post transactions. Daybooks are associated with operational transactions in Default Daybooks. This field is optional.

Transaction Type

Specify a transaction type for the program to only post unposted transactions with this transaction type. If you leave the field blank, the program posts transactions regardless of their transaction type. The possible transaction types are:

- FA: Fixed Assets

  Note You only need to post fixed asset transactions if you have not migrated to the Fixed Assets Web UI app.

- IC: Inventory Control
- SO: Sales Orders (non-invoice transactions only)
- WO: Work Orders
- SB: Advanced Self Billing Accrual Transactions

To run the report and post transactions, click Run. Error messages are displayed at the top of the report.

Note Where necessary, the resulting GL transactions are updated with the corresponding statutory currency amounts. If the transaction currency is not available, then the system converts the base currency amount to statutory currency using the statutory exchange rate type. Both numeric identifiers generated during the creation process are retained as part of the history record. GL reporting functions display both numbers. The Reference ID field on GL reports lists both the operational reference number and GL reference.

Creating Operational Transactions

Unposted operational GL transactions—composed of multiple lines representing debits and credits to individual accounts—are created by operational processing functions outside the GL module. They are identified with a 14-character operational reference number in the following format:

<transaction type><yr><mm><dd><transaction number>

When you receive a purchase order, at the same time an RCT-PO inventory transaction is generated, the system also creates an unposted GL transaction with an IC prefix. A typical operational reference would be IC1402210037—the 37th inventory movement transaction created on February 21, 2014.

Important The use of daybooks is mandatory and you must create at least one daybook of type Journal Entries.

Additionally, based on the daybook associated with the transaction type, the system assigns a GL reference number used to identify the transaction after it is posted to the general ledger:

<Year>/<DaybookCode><SequenceNumber>

Records in Default Daybooks on page 909 associated with the operational transaction functions must reference active daybooks. If you attempt to post a transaction that references an inactive daybook, the system displays an error, and the transaction is not posted.

Important As part of daybook setup, you must define at least one record in Default Daybooks to represent the system daybook in operational transactions.

If Operational GL Allocations on page 5819 have been set up to split specified percentages of the transaction amount among multiple accounts, the system creates a separate posting line for each account combination. Operational transactions are created in pairs that are balanced. A single GL reference can contain multiple lines and, when posted, separate transactions are created for each daybook. For transactions that span multiple entities, operational programs create separate transactions for each entity, as needed. The system automatically generates a reference to link the cross-company transactions during the posting process.

Unposted GL Transactions

The Unposted GL Transactions browse has a default filter to display only those GL transactions that need correction. These transactions have failed validation in Operational Transaction Post.

In addition to updating the unposted transaction table, this program also modifies the fields in operational transaction history to ensure that the history reflects the same values as the actual GL posting. Therefore, any account data changes you make using Unposted GL Transactions are also updated in Inventory Transactions when you rerun Operational Transaction Post.

You can edit a line of an operational GL transaction only if it contains an account error. For example, if there is an incorrect—but valid—account in a posting line, you cannot change it. You cannot modify transaction dates or amounts either. In these cases, you must create a second operational transaction to reverse the original amount, correct the account data, and run the post program again.

To correct a transaction, click Edit. The form is displayed, and the lines in the browse are displayed in the Lines grid.

Main

The Main panel displays the header information for the transaction. These fields are read only.

Lines

The Lines grid displays the transactions for this posting. In the grid, you cannot add or delete lines. You can edit lines to correct them, but you can only change the following fields:

GL Account

Click the lookup to search for a GL account. You also have the ability to edit the SAF structure.

Sub-Account

Click the lookup to search for a sub-account.

Cost Center

Click the lookup to search for a cost center.

Project

Click the lookup to search for a project.

If the line selected in the grid has SAFs, the SAF Analysis button is enabled. When you click this button, it displays a read-only SAF Analysis screen, showing the lines in the SAF structure.

After you edit the grid and save your changes, the screen is read only and the Needs Correction column for the relevant transaction in the browse is set to No. You can now post the transaction in Operational Transaction Post.

Unposted Transaction Register

Filter

Entity

Specify the entity that you want to use for the report.

Reference ID

Specify a range of system-defined GL references for selecting operational transaction records to be used in the report.

Entered Date

Specify the entered date of the operational transactions that you want to use in the report.

Effective Date

Specify the effective date of the operational transactions that you want to use in the report.

Batch

Specify a system-assigned batch number for selecting transactions to be included in the report.

Transaction Type

Specify the transaction type that you want to view records for. The options include:

- IC
- WO
- SO

Unbalanced Only

Select from the following options:

- Yes

  Select Yes to only view unbalanced operational transactions.

- No

  Select No to view all operational transactions for the specified criteria.

Distribution Orders

At a supply site, you can process several intersite requests at one time by combining them in a distribution order, the same way purchase requisitions are combined into purchase orders. Distribution orders simplify picking and shipping materials from one site to another.

Distribution Order Pre-Shippers

Use Distribution Order Pre-Shippers to:

- Modify distribution order pre-shippers created with DO Pre-Shipper/ Shipper - Auto.
- Create distribution order pre-shippers.
- Establish a master container hierarchy or merge existing distribution order pre-shippers.

A pre-shipper/shipper document is used to select and ship inventory. In shipment processing, the terms picklist and pre-shipper are synonymous. In this discussion, the term pre-shipper is used to mean both.

Life Cycle

Typically, you initially create pre-shippers in batches using DO Picklist/ Pre-Shipper - Auto. Use Distribution Order Pre-Shippers on an exception basis to modify the pre-shippers previously created. For example, you can update the shipment quantity if sufficient inventory was not available during picking or update the packing structure.

Use DO Pre-Shipper/Shipper Print to print shipping documents. Use either DO Pre-Shipper/Shipper Print or the confirm action in Distribution Order Pre-Shippers to transform a pre-shipper into a shipper.

You can export a confirmed shipper as an ASN to inform your customer that an order has been shipped. Export ASNs using EDI ECommerce.

Inventory and financial effects occur when you confirm the pre-shipper/ shipper. Distribution Order Pre-Shippers only sets up the pre-shipper.

Pre-Shippers and Shippers

The system distinguishes between pre-shippers and shippers to accommodate businesses that number shipments consecutively. If consecutive numbering of shipments is important in your business, always create pre-shippers first.

When you print pre-shippers using DO Pre-Shipper/Shipper Print, set Assign Shipper Numbers to Yes to automatically transform the pre-shippers into shippers. If you did not assign a shipper number to a pre-shipper when it was printed, the Confirm action in Distribution Order Pre-Shippers assigns a number.

Serialized Product

You can use this program to view master serial IDs linked with a DO pre-shipper. The system displays picked master serial IDs on container IDs for a DO pre-shipper. You can scroll through the serial IDs. You can also view picked master serial IDs for the pre-shipper.

You cannot enter a master serial ID that you have not picked for the pre-shipper. When you try, the system displays an error message.

You can remove a picked master pack from the pre-shipper. When you do, the system also removes detail allocation.

Logistics Accounting

If you are using the Logistics Accounting module, the system uses the freight terms assigned to the first distribution order attached to the pre-shipper to determine whether logistics charges accrue and, if so, whether an accrual is created for each line or the entire shipment. Each distribution order attached to the pre-shipper or shipper must have the same freight terms code; otherwise, an error displays. For more information on freight terms, refer to the procedure help for Freight Terms.

Overshipments

Overshipments occur when the total shipped plus the total allocated plus the total picked is greater than the distribution order confirmed quantity (ds_qty_conf). Any quantities on outstanding shippers for this distribution order (which may or may not be allocated/picked) are included in this calculation.

- If the qty allocated + qty picked + qty shipped exceed the distribution order confirmed quantity (ds_qty_conf), you should increase the distribution order quantity and distribution order quantity allocated as needed in Distribution Orders before creating and confirming the distribution order shipper.
- If you proceed with the overshipment without increasing the distribution order quantity/allocated quantity and other allocations exist for this item for other distribution orders, Set Qty Oh/Qty All/Qty Req should be run to reset the quantity allocated.

General Ledger (GL) Effects

There are no GL transactions created in this program.

Distribution Order Pre-Shippers View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the distribution order pre-shipper you are working on, including the pre-shipper, ship-from, ship-to, status and inventory movement code. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Ship-From

Enter the site in which this shipper is assembled and shipped. This field is mandatory.

Along with the Pre-Shipper, Ship-From uniquely identifies a shipper record.

Ship-To

The ship-to or dock address code to which this pre-shipper is to be delivered. This field is mandatory.

A shipper record can have its delivery address specified as either a customer, ship-to, or dock address code.

Pre-Shipper

The system assigns a pre-shipper record.Along with Ship-From, the pre-shipper uniquely identifies a pre-shipper record.

Shipping Group

Displays the shipping group for this combination of Ship-From and Ship-To addresses.

Inventory Movement Code

Enter a unique code identifying the type of inventory movement for the pre-shipper. The code entered must exist in the shipping group inventory movement detail table, and you must have access granted per Site/Inventory Movement Security.

If you select an existing shipper, the system overwrites any value entered in this field with the value from the selected shipper. You cannot edit an inventory movement code on an existing record.

The default is the value assigned for the transaction type in the shipping group.

To add a new record, enter a nonexistent (new) inventory movement code. To edit a record for an existing code, enter the existing inventory movement code.

Status

Enter the status of the pre-shipper:

- Blank: When you create the pre-shipper, the Status is blank.
- Canceled. If you want to change the Status to canceled, you can do this only if all items are deleted from the pre-shipper. The system updates Cancel Date automatically. The cancellation of a pre-shipper/shipper can be reversed by blanking out the Status field. The system automatically clears Cancel Date.
- Confirmed. If the pre-shipper/shipper is confirmed using the Confirm action in Distibution Order Pre-Shippers, the Status of the pre-shipper/shipper becomes confirmed automatically.
- Unconfirmed. If the pre-shipper/shipper is unconfirmed.

Ship Date

The system displays the date the shipment is made. Defaults to today's date.

Cancel Date

Enter the date the pre-shipper is cancelled.

Pre-Shipper Options Subpanel

Document Format

Enter a valid document format of a type applicable to shippers. This field defaults from Shipper Document Format in Logistics Control.

You cannot use a document format that allows the printed shipper to be used as a printed invoice. If the document format is edited for a shipper marked as having been printed, the system displays a warning message, but allows you to continue.

Shippers with blank document formats cannot be printed and do not have available any additional processing services provided by service encapsulation procedures associated with document formats.

Consolidate

This field determines whether consolidating shipments with multiple originating transactions of a given type (distribution orders, transfers) is prohibited, allowed, or required for this address.

Optional (the default): Allows shipment consolidation, but does not require it.

No: Prohibits shipment consolidation. You cannot prohibit shipment consolidation if any source address in this shipping group requires consolidation.

Yes: Requires shipment consolidation. You cannot require shipment consolidation if any source address in this shipping group prohibits consolidation.

The system considers the shipment consolidation requirements of both the source and destination addresses when determining the consolidation requirements of a shipment.

- If either address requires consolidation, the shipment has to be consolidated.
- If either address prohibits consolidation, the shipment cannot be consolidated.

You cannot establish a shipping group containing a source/destination address combination in which one address requires consolidation and one address prohibits it.

Language

Specify a valid active language set up in Languages used when associating header, line item, and trailer comments with this shipper.

This field defaults from the ship-to address of the shipment.

You can select shipments for printing by their language code.

Intersite Requests Panel

You can add and edit Intersite Requests directly in the grid. You can also click on Details to access the **Intersite Requests Details** view, where you can further create and edit intersite requests within the distribution order pre-shipper.

You can move requests to change the hierarchy by using the Drag & Drop functionality.

Note Once the request has been picked, you can only update the Gross Weight and Volume fields.

Main Panel (Intersite Requests Details)

Order

Enter a number identifying a distribution order. The DO number, ship-from site, and ship-to site uniquely identify a specific order and its associated requisition number. Use the number to select specific information.

Note This field can be updated as long as the Distribution Order Pre-Shipper is not confirmed.

Requisition Number

Enter the number of a new or existing requisition number to be filled on the distribution order (DO). If you specify the distribution order number, the system fills in the requisition number and item number.

Note This field can be updated as long as the Distribution Order Pre-Shipper is not confirmed.

Item

When you create a new intersite request, enter the number of the item to be shipped to the receiving site. This item must have been previously defined at the shipping site.

Note: When you reference an existing intersite request, item number defaults from the request and cannot be modified.

Distribution orders consist of one or more line items, each referencing a receiving site, item number, ship date, and quantity selected for

shipment. When this order is shipped, inventory for this item is decreased.

You can generate most distribution order reports for ranges of items.

You can specify any item defined in Items, not just items with a Pur/Mfg code of D (DRP). For example, you may normally manufacture an item but, in a period of short supply, request a supply from another site. In this case, enter an intersite request rather than releasing a manufacturing order.

Description

Displays the description of the item.

Pre-Shipper Request Options SubPanel (Intersite Requests Details)

Detail Allocation

This field determines whether you can make general or detailed allocations for this item.

- Unselected: The pop-up for detail allocations does not display. You can create general allocations by specifying a value in the Quantity Allocated field.
- Selected: If there is an unallocated confirmed quantity for this intersite request, the system automatically allocates from the available and unallocated quantity on hand. An additional window displays where you can enter specific locations, lot/serial numbers, and lot references. You can assign both a quantity allocated and a quantity picked.

This field defaults to undelected, unless detailed allocation records already exist. In this case, the default is selected.

If you do not create detail allocations, the system automatically generates them when you print a picklist.

Allocations reserve inventory so it is not available for other orders in the system. Allocations also control shipment quantities when there are not enough items to fill all orders. You can choose to ship the quantity allocated or the quantity picked.

Inventory Detail Panel (Intersite Requests Details)

Site

Site codes identify areas where inventory is manufactured or stored: an off-site storage area, a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger entity, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Usually each site is split into multiple locations where the inventory is actually stored, so you may think of a site as a group of physical locations -- stockrooms, inspection stations, shop floors.

Entity

The entity associated with the site.

Location

Identifies this inventory quantity's location.

Location identifies physical locations where inventory is stored.

Every item in inventory is associated with a location. A given item may be stored in multiple locations. The location code must be specified on every inventory transaction--issues, receipts, transfers, and counts.

Location can be used to select specific information to appear on reports.

Quantity

The total quantity processed on this inventory transaction.

On a shipment, issue, or transfer, the quantity taken out of stock. On a purchase order or work order receipt, the quantity received into stock.

The beginning quantity on hand, transaction quantity, and transaction type can help track problems, such as cycle count errors. You can review the inventory transactions for an item and the effect of each. If the ending quantity is equal to the beginning quantity on hand, check the transaction type--it must have been processed as a non-inventory transaction and may be the source of your error.

This field is only updated when an item exists in the item master and the inventory transaction was processed at a nettable location. If the location status is non-nettable, only the tr_loc_chg is updated.

UM Conversion

The conversion factor to use if the shipping unit of measure is not the same as the inventory stocking unit of measure. For example, if the shipping UM is cases, the stocking UM is pallets, and there are 10 cases per pallet, the conversion factor is .1.

Ship Type

If an item is associated with an alternate UM, tracking of the actual storage unit can be performed. For example, an item number can be defined for pallets. This item is entered as the alternate UM's item number. The Ship Type determines if the item is to be considered as actual inventory or just as a memo item.Leave the Ship Type field blank to maintain actual inventory levels for the item. Enter a non-blank value —the convention is M for Memo—and standard inventory transactions are created to show the movement of the item, but no on-hand or other inventory details are maintained.

Lot/Serial

The lot/serial number associated with this inventory quantity.

Each item may optionally be defined as Lot or Serial number controlled, determining whether you must enter a lot or serial number on each inventory transaction.

Most items are defined with lot/serial control set to blank, indicating that lot/serial numbers are not required, although they may be recorded as needed.

Reference

Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities. Lot reference may be the production lot of the item or it may be a location reference such as a skid, roll, or pallet number.

Inventory detail information is stored by Item Number, Site, Location, Lot/Serial, and Ref number. Details kept for each combination include the quantity on hand and inventory attributes -- Assay %, Grade, Expire Date, and Status Code.

Quantity Picked

Displays the quantity picked for this line.

Quantity on Hand

Displays the quantity on hand for this line.

Quantity on Order

Displays the quantity on the order for this line.

Quantity Available to Allocate

Displays the quantity available to allocate for this line.

Weight Sub-Panel (Intersite Requests Details)

Net Weight

Enter the net weight per unit for this item. Net weight represents the item weight without packaging. When you use shippers to ship items on sales orders, the shipping programs calculate tare weight as the difference between the item ship weight and net weight. If net weight and ship weight are expressed in different units of measure, be sure to set up unit of measure conversions.

Tare Weight

Enter the weight that is the difference between the product item ship weight and net weight. The system may modify this value because some shipper item weights may vary. If you pack this shipperin another shipper, any change in weight due to change in shippercontents or manual modification is made to the weight of the parent shipper.

Gross Weight

Specify the sum of the net weight of the shipperitem number plus the net weight of the item numbers added to the shipper. For product items, it is the net weight of the product item.

Volume

The volume of the shipper before packing or loading defaults from the item record.

Notes Panel (Intersite Requests Detail)

On the **Notes Details** view, you can add and edit notes attached to the intersite request line in the Distribution Order Pre-Shipper.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the intersite request.

Reference

Select a reference for the note.

Language

Select the language for the note.

Type

Select the document type for the note.

Carriers Panel

This panel displays the list of carriers that were set up in Shipping Groups for the associated inventory movement code. If necessary, you can add a carrier to the grid by clicking New.

Sequence

This field indicates the order in which the various carriers handle shipments. The Ship-From site of a shipment turns over possession to the first carrier, which may later turn over possession to a second carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

Carrier

The carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name

Displays the name of the Carrier as defined in Carriers.

Ship Via

Enter a code identifying the carrier responsible for this shipment. This field is mandatory. By default, this field is blank.

Terms of Trade Point

Enter the terms of trade point for this shipment. The terms of trade point identifies when title passes to the buyer from the seller, as well as who pays shipping. By default, this field is blank.

Mode of Transport

Enter the mode of transport for the shipment such as air or sea. This field is for reference only. By default, this field is blank.

Carrier Shipment Reference

Enter a shipment reference number supplied by the carrier such as a bill of lading number, carrier tracking number, or packing slip number. By default, this field is blank.

Vehicle ID

Optionally, enter an identifier representing the carrier's vehicle. This field is for reference only. By default, this field is blank.

Payment Type

Specify the payment type. Use Payment Type and Carrier Account to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Carrier Account

Specify the carrier account code. Use Carrier Account and Payment Type to inform carriers of the accounts that require shipment payment collection. By default, this field is blank.

Total Pallets

Enter the number of pallets or skids included in this shipment. This value is for reference. It prints on shipping documents and bills of lading.

Totals Panel

Net Weight

Net weight represents the item weight without packaging. Net weight is used in calculating the tare weight.

Tare Weight

Tare weight is the difference between the item ship weight and net weight.

Gross Weight

Enter the ship weight—that is, the combined weight of the product and all packing materials or containers.

Volume

Enter the volume of the item. Volume is used in calculating the volume for the shipment.

Total Pallets

Enter the number of pallets or skids included in this shipment. This value is for reference. It prints on shipping documents and bills of lading.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the distribution order pre-shipper.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the distribution order pre-shipper.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Trailer Notes Panel

On the Trailer Notes panel, you can add, edit, and delete trailer notes attached to the distribution order pre-shipper.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the trailer note attached to the distribution order pre-shipper.

Reference

Select a reference for the trailer note.

Language

Select a language for the trailer note.

Type

Select the document type for the trailer note.

Creating Distibution Order Pre-Shippers

1. Go to **Distribution Order Pre-Shippers**.
2. Click **New**.
3. Complete the fields described in Distribution Order Pre-Shippers View on page 3933.
4. Click **Save** to create the new record.

Modifying Distribution Order Pre-Shippers

1. Go to **Distribution Order Pre-Shippers**.
2. Select the row of interest, then click **Edit** or double-click the row.
3. Modify the required fields. You can consult the editable fields in Distribution Order Pre-Shippers View on page 3933
4. Click **Save** to update the record.

Deleting Distribution Order Pre-Shippers

1. Go to **Distribution Order Pre-Shippers**.
2. Select the row of interest, then click **Edit** or double-click the row.
3. Click the **Delete** button.

4. The system prompts you with a delete confirmation message. Click **Delete**.

DO Picklist & Pre-Shipper - Automatic

In distribution order (DO) shipment processing, the terms picklist and pre-shipper are synonymous. In this discussion, the term pre-shipper is used to mean both.

Life Cycle

Use DO Picklist & Pre-Shipper - Automatic to create DO pre-shippers in batches. Use Distribution Orders Pre-Shippers and Distribution Orders Shippersto create DO pre-shipper and shipper documents one at a time.

Pre-shippers are created based on requirements from other sites within your company on distribution orders. Once created, you can merge pre-shippers into other pre-shippers or shippers with Distribution Orders Pre-Shippers and Distribution Orders Shippers.

If you do not print the shipper from the maintenance program, use DO Pre-Shipper/Shipper Print to print shipping documents. Use either DO Pre-Shipper/Shipper Print or the Confirm action in Distribution Order Shippers and Distribution Order Pre-Shippers to transform a pre-shipper into a shipper.

You can export a confirmed shipper as an advance ship notice (ASN) to inform warehouses that an order has been shipped. Export ASNs using EDI eCommerce.

Inventory and financial effects occur when you confirm the pre-shipper/shipper. Distribution Order Shippers and Distribution Order Pre-Shippers only sets up the pre-shipper/shipper.

Pre-Shippers and Shippers

The system distinguishes between pre-shippers and shippers to accommodate businesses that number shipments consecutively. If consecutive numbering of shipments is important in your business, always create pre-shippers first.

When you print pre-shippers using DO Pre-Shipper/Shipper Print, set Assign Shipper Numbers to Yes to automatically transform the pre-shippers into shippers. If you did not assign a shipper number to a pre-shipper when it was printed, the Confirm action in Distribution Order Shippers and Distribution Order Pre-Shippers assigns a number.

Allocations

You can select orders to pick by range of due date, distribution order number, ship-to, language, site, address type, item number, and reference. These selection criteria determine which orders are processed. They have no effect on the sequence in which distribution orders are picked and printed. The system always picks items for distribution orders in sequence by receiving site code and then distribution order number.

DO Picklist & Pre-Shipper - Automatic normally prints picked quantities only (set Print Only Lines to Pick to Yes). The pre-shipper details each item by quantity per location, lot, and reference number. The system converts general allocations to detail allocations at this time.

When you create a pre-shipper with DO Picklist & Pre-Shipper - Automatic, the allocations made to the original distribution order are deleted and new allocations are created for the shipper. This is not true when you create a pre-shipper manually or add another distribution order line to a pre-shipper with Distribution Order Pre-Shippers and Distribution Order Shippers. In this case, the pre-shipper allocations are consumed from the distribution order allocations, but the remaining allocated quantities, if any, are not deleted.

After confirming lines to pick, inventory is detail allocated unless Stage Open Quantities is Yes. Running DO Picklist & Pre-Shipper - Automatic can produce different results based on the setting of Stage Open Quantities and Print Only Lines to Pick.

- Stage Open Quantities. If Yes, pre-shippers are created based on the open distribution order quantities, not allocated quantities. This lets you create pre-shippers for distribution order lines even when sufficient inventory is not available. This option is useful when you are sure that inventory will become available soon.
- Print Only Lines to Pick. If Yes, only lines with an allocated quantity print. If No, all distribution order line items with a non-zero open quantity are printed, regardless of the quantity allocated. If No, and an allocated quantity does not exist, a document still prints, but the pre-shipper number is blank. The document lists distribution order line items with a quantity open greater than zero.

Shipper ID

The system assigns a pre-shipper ID based on defaults defined for the inventory movement code and shipping group or from the shipper sequence ID from DO Shipper panel in Logistics Control. Number sequences are defined with Number Range Maintenance (NRM). In order for the system to dispense the number, the NRM sequence must be an internal sequence (system-generated). If the assigned NRM sequence is an external sequence, an error displays.

The document format and carriers used are also based on defaults defined for the inventory movement code and shipping group or from DO Shipper panel in Logistics Control.

Consolidation Requirements

Consolidation requirements are based on the shipping group used for the shipment.

- If either the ship-to or the ship-from address of the shipment prohibits consolidation, the system generates a new pre-shipper for each distribution order.
- If either the ship-to or ship-from address requires consolidation and other consolidation criteria are met (such as weight and volume limitations), the system consolidates line items on a single pre-shipper.

The Max Lines on a Pre-Shipper field in DO Shipper panel in Logistics Control limits the number of printed lines allowed on each pre-shipper, which can limit the number of line items. This takes precedence over consolidation requirements.

Serialized Inventory for DO Shippers

When you are using Serialization features and you are preparing a DO shipper for serialized product, the system displays the suggested number of serialized packs for staff to pick in the displayed picklist. As a simulation, the system calculates the number of packs based on packaging structure, but not real inventory data. When calculating the number of packs, the system considers full top-level packs to pick first, then lower-level packs, and so on, until it finally considers the unit pack and loose items. The system calculates the number of packs based on the packaging structure. For example, you have a packaging structure with the following:

1 pallet = 10 cases, 1 case = 10 items.

Staff should pick 453 items and four packs consisting of: 4 pallets + 5 cases + 3 loose items.

When the item is within the pack, the system displays a Number of Packs section below allocation detail. The system displays the pack code and number of packs in the section. For loose items, the system displays the word "item" in the Pack Code field.

When serial IDs do not exist for the allocated, site, location, item, lot, serial, or reference, the system does not display the section.

Security

You should define menu security for this program to restrict access.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Due Date

Enter the first date for this function to consider. Leave blank to begin with the first date on which transactions exist.

The due date is the date items should be available for use.

The date in the header sets the default due date for each requisition item. The system uses due dates when analyzing vendor performance and, most important, by DRP, which assumes that the due date is the date that the item is in house.

Distribution Order

Enter the range of numbers for this function to consider. Leave blank to begin with the first available number.

Ship-From

Enter the first supplying site in a range from which items are shipped.

Each transportation mode is defined along with standard load and unload times to use for scheduling, freight rates to use for cost of freight analysis, and load capacity to use for transportation load reports.

Individual shipping schedules and lead times may be established from one site to another for each mode of transport.

Most reports can be selected by transport mode and supplying and receiving sites.

Ship-To

The site that receives the items from the source site specified.

Each transportation mode is defined along with standard load and unload times to use for scheduling, freight rates to use for cost of freight analysis, and load capacity to use for transportation load reports.

Individual shipping schedules and lead times may be established from one site to another for each mode of transport.

Most reports can be selected by transport mode and supplying and receiving sites.

Order Date

Enter the first order date in a range for this function to consider.

Language

Enter the first language code in a range for this function to consider.

Language is particularly useful when printing formal documents. You can run the print functions by selecting only a range of language codes. This allows you to use different preprinted forms in different languages.

Comment information is also stored in the system with a language code. When comments are accessed, for example during order entry, the system searches for comments stored in the native language for this address. This allows you to quickly and easily access text, such as customs documentation or item descriptions, in the correct language.

Each address code has a default language assigned and language is carried on all transactions. When reports are selected by language code, the system only includes transaction or address information with this code. If you have a multiple language environment, report labels print in the specified language.

Selecting reports based on language code allows you to load preprinted forms in the correct language and make any other selections (such as Form Code) so that formal documents are printed correctly.

Only variable information prints in other languages. Text that is entered into the system manually, such as item descriptions or country names, is not translated. It prints in the language in which it was entered.

Item

Enter the code identifying an inventory item defined in Items.

Items uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports can be selected by item number.

Stage Open Quantities

This field determines whether the system creates picklists for distribution order requisition numbers that cannot be detail allocated because inventory is not available at the time this function is run.

No: Picklists are created based on distribution order requisition numbers that have been detail allocated only.

Yes: Picklists are created based on open distribution order requisition numbers. The open requisition number quantity does not have to be detail allocated.

This option is useful if inventory is not available when you create the picklists, but you are very certain that inventory will become available soon.

Break on Maximum Weight

Indicate whether the system only creates picklists that do not exceed the weight you specify here. If the gross weight is zero, it has no effect on picklist creation. If non-zero, the system ensures that no picklists are created with a gross weight that exceeds the entered maximum weight.

The logic works as follows. Before a new line item is added to a picklist, the system checks whether the gross weight of the picklist including the new line exceeds the specified weight. If it does not exceed the maximum weight, the system adds the line item to the picklist; otherwise, the system creates a new picklist and adds the line item to the new picklist.

Break on Maximum Weight UM

Enter the UM associated with the weight. You define the volume UM for each item in Items. When you set up UM here, you define the conversion factor between this UM and the one in Items. If not found, the system assumes a 1:1 conversion factor.

Break on Distr Order

Indicate whether the system creates separate picklists for each distribution order number.

No (the default): The system combines multiple distribution orders with identical ship-to addresses into one picklist.

Yes: The system creates picklists that relate to only one distribution order.

Break on Maximum Volume

Indicate whether the system prevents the creation of picklists that exceed the maximum volume you specify here. If zero, volume has no effect on picklist creation. If non-zero, the system ensures that no picklists are created with a volume that exceeds the maximum volume entered.

The logic works as follows. Before a new line item is added to a picklist, the system checks whether the volume of the picklist including the new line exceeds the specified volume. If it does not exceed the maximum volume, the system adds the line item to the picklist; otherwise, the system creates a new picklist and adds the line item to the new picklist.

Break on Maximum Volume UM

Enter the UM associated with the volume. When you set a UM here, you also need to define the conversion factor between this UM and the one in Items. If not found, the system assumes a 1:1 conversion factor.

Print Only Lines to Pick

Indicate whether to print distribution order line item numbers that have been detail allocated on packing lists or No to print all distribution order line item numbers regardless of allocations.

Stage Open Quantities also affects how inventory items are selected for printing in this program, based on whether they are detail allocated.

Include Packing List Comments

This option is used together with the parameter Max Lines on a Pre-Shipper in DO Shipper panel in Logistics Control. It determines whether to consider the size of pack list comments when calculating the maximum number of lines to be printed on a picklist.

Yes: Enough room is left on each page to print associated pack list comments.

No: The space required to print pack lists comments is not considered when calculating how many lines to print on a page.

If the parameter Max Lines on a Pre-Shipper in DO Shipper panel in Logistics Control equals zero, this option has no effect.

Print Packing List Comments

Allows pack list comment lines to be printed on the pack list document.

Yes: Pack list comments will be printed on the pack list.

No: Pack list comments will not be printed on the pack list.

Update

Enter Yes to run this program in update mode and change records in the database.

Enter No to run this program in report-only mode without updating the database. A report prints for review with SIMULATION displayed at the top of each page.

Click **Run** to continue.

Closed Intersite Demand Delete & Archive

To delete or archive a request, the quantity shipped must be equal to or greater than the quantity confirmed. When all intersite requests associated with a distribution order are deleted, the system also deletes the distribution order.

Note You can also delete/archive intersite requests with a status of Closed regardless of the quantity shipped. You must manually set the status to closed; the system does not do this.

The system does not automatically delete intersite requests when you reference them on distribution orders or ship them completely. You can delete this information as frequently or infrequently as you prefer. Generally, you should delete requests at the supply site before using Closed Intersite Demand Delete & Archive to delete the corresponding record at the demand site. How often you should run this function depends on how long you need to retain historical information in your database. Most companies keep historical data for at least one year or longer, depending on the availability of disk space.

You should run this function twice. First, run it with Delete set to No and review the report. Then, run it with Delete set to Yes. When you set Delete to Yes, demand records that satisfy the selection criteria and have a quantity confirmed equal to or greater than the quantity shipped are deleted from the database. If you set Archive to Yes, deleted data is copied to an ASCII file that can be reloaded. Otherwise, deleted data cannot be recovered.

When Archive is Yes, the system stores selected data in a file named doYYMMDD.hst where do is the record type and YYMMDD is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran Closed Intersite Demand Delete & Archive the same day, the system adds the additional archived records to the end of the file. Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files.

If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Note Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, temporarily change your country code in Users to match that of the user who archived the data. You should define menu security for this program.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Distribution Order

Optionally, enter the range of distribution orders. Leave blank to include all distribution orders.

Ship-From

Enter a range for the Ship-From sites. This field is mandatory.

Ship-To

Optionally, enter the range of Ship-To sites. Leave blank to include all Ship-To sites.

Requisition Number

Optionally, enter the range of requisition numbers. Leave blank to include all requisition numbers.

Item

Optionally, enter the range of items. Leave blank to include all items.

Ship Date

Optionally, enter a range of ship dates. Leave blank to include all the ship dates.

Due Date

Optionally, enter a range of due dates. Leave blank to include all due dates.

Project

Optionally, enter a range of projects. Leave blank to include all projects.

Delete

Indicate whether to delete the selected records or generate a report only. If you select No, the selected records are not deleted. A report is generated listing the selected records.

If you select Yes, the selected records are deleted from your database and listed in a report.

If you set Archive to Yes when Delete is Yes, the selected records are copied to an ASCII file before deletion.

Archive

Indicate whether to archive the selected records. If you select No, the selected records are not copied to an ASCII file. If you select Yes,the selected records are copied to an ASCII file. The system creates a file name in the following format: xxYYMMDD.hst, where xx identifies the module code or record type and YYMMDD is the file creation date. If this file does not exist, it is created. If it does exist, records are appended to the end.

Archive File

Enter the name of the file that will contain the exported data. Although the system generates a comma-delimited file, it does not add an extension. For example, if you want the file to be accessible to an external application that recognizes comma-separated value files, add .csv to the file name.

Click **Run** to continue.

Distribution Order Shipment Reconciliation

In a multiple-database environment, this report should be run from the shipping site database. Receiving site databases must be connected in order to retrieve the receipt quantities. If they are not, an error displays in the report output.

In a multiple-database environment, report details are derived from the shipping site's database, except for receipt quantity and last receipt date.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Distribution Order

Optionally, enter the range of distribution orders. Leave blank to include all distribution orders matching other selection criteria.

Ship-From

Optionally, enter a range for the shipping sites. Leave blank to include all distribution orders matching other selection criteria.

Ship-To

Optionally, enter the range of receiving sites. Leave blank to include all distribution orders matching other selection criteria.

Item

Optionally, enter the range of items. Leave blank to include all distribution orders matching other selection criteria.

Intersite Request

Optionally, enter the range of intersite requests. Leave blank to include all distribution orders matching other selection criteria.

Order Status

Optionally, enter the range of order statuses to include in this report. Leave blank to include all distribution orders matching other selection criteria.

Due Date

Optionally, enter a range of due dates. Leave blank to include all distribution orders matching other selection criteria.

Shipped Only

Include only shipped distribution orders in the report. If you select No, the report includes details for all distribution orders matching the selection criteria. If you select Yes, the report includes details for distribution orders matching the selection criteria only if a quantity has shipped.

Differences Only

Only include distribution orders where the shipped quantity does not match the received quantity. If you select No, the report includes details for all distribution orders matching the selection criteria. If you select Yes, the report includes details for distribution orders matching the selection criteria only if the shipped quantity does not match the receipt quantity.

Sort By

Select how the system should sort distribution order details on the report.

- 0-Shipping Site
- 1-Distribution Order
- 2-Shipping Date

Click **Run** to generate the report.

Distribution Order Receipt Restrictions

For each item, restrictions are based on combinations of sites and locations. Restrictions apply to the domain where they are defined; they allow or prevent creating distribution order (DO) receipts. If no restrictions are defined, all roles with access to these programs can create DO receipts for any item.

You should define distribution order receipt restrictions as part of a general security model, which includes role-based access security, site security, and field security. The system applies site and field security before update restrictions.

Creating even one restriction has broad effects

- Defining a restriction that allows a role to create DO receipts for items with some combination of values prevents all roles from creating DO receipts for any other items and combinations. Additional restrictions must be defined to allow the specified role to create DO receipts for any other combinations and for other roles to create DO receipts at all.
- Defining a restriction that prevents one role from creating DO receipts for an item with some combination of values prevents all roles from creating DO receipts for any other items and combinations. Additional restrictions must be defined to allow any role to create DO receipts for any combinations.

General rules for update restrictions

- If one restriction is set up, all transactions are validated and have to pass to be accepted. If no restrictions are set up, all transactions are accepted.
- As soon as a restriction is set up in Inventory Detail Restrictions , for example, then Inventory Detail is secured for all transactions.
- Defining a record in one of the restriction setup programs only affects the programs covered by this restriction. For example, defining a restriction in Inventory Detail Restrictions has no effect on Sales Orders because sales orders restrictions are specified in Sales Order Restrictions.
- The values from the transaction are matched against the restrictions defined. There has to be one positive match for the transaction to be accepted.
- If there is more than one match, all must be positive matches for the transaction to be accepted. In other words, the first negative match will make the transaction fail.
- There is an implied hierarchy within the fields used to set up the restrictions (Item, Site, Location, and so on). The hierarchy is the order in which they appear on the screen where the restrictions are

set up. If a transaction matches a field value that is excluded for a role, for example, Site: !10000, the system fails the transaction without considering the values of the fields lower in the setup screen.

- These rules are the same for all transactions that are enabled for this functionality. The fields may be different from one transaction to another, but the above rules still apply.

Using Wild Cards

Item number, site, and location values can be entered using wild card values. The asterisk (*) and exclamation point (!) can be used as inclusion and exclusion wild cards respectively:

- * indicates access to all
- string* indicates access to all beginning with string
- string indicates access to that string only
- ! string * indicates access is restricted from all beginning with that string
- ! string indicates access is restricted from that string only

Use combinations of inclusive and exclusive restrictions to specify both large and small sets of value combinations.

1. Security example

   For the role Admin1, restrictions are defined to allow creating DO receipts for multiple item and value combinations:

   - Role (Admin1), Item (22-1*), Ship-From (10000), Ship-To (12000), Ship-To Location (100)
   - Role (Admin1), Item (22-2*), Ship-From (10000), Ship-To (12000), Ship-To Location (200)

   With these restrictions defined, Admin1 users can create DO receipts for items that begin with 22-1 from Ship-From 10000 for Ship-To 12000 and Ship-To Location 100 and for items that begin with 22-2 from Ship-From 10000, for Ship-To 12000, and Ship-To Location 200. Admin1 users cannot create DO receipts for any other items and value combinations and no other role can create DO receipts for any items at all.

2. Security example

   In this example, an administration role (Admin1) is restricted from creating DO receipts for a specific item number. If most roles can create DO receipts for most items, it is best to first define restrictions that allow all changes; then, define additional restrictions for the small set of value combinations where changes are prevented.
   For each role, set access to all * for items, sites, and locations to allow the role to create DO receipts for all items at all sites and locations.

   - Item *, Ship-From *, Ship-To *, Ship-To Location *

After completing the general availability restrictions, define a restriction that prevents the role Admin1 from creating DO receipts for all items that begin with 22-100.

- Role (Admin1), Item (!22-100*), Ship-From *, Ship-To *, Ship-To Location *

The role Admin1 can create DO receipts for all items in all sites and locations except for items that begin with 22-100. All other roles can create DO receipts for all items.

Distribution Order Receipt Restrictions View

Main Panel

Role

Enter the name of a role defined in the system and assigned to users.This field is mandatory.

Restrictions Panel

Item

Enter the item defined in Items. This field is mandatory.

Ship-From

Enter the originating or shipping site that is part of the definition for this update restriction. This field is mandatory.

Ship-To

Enter the receiving site that is part of the definition for this update restriction. This field is mandatory.

Ship-To Location

Enter the receiving location that is part of the definition for this update restriction. This field is mandatory.

Creating a Distribution Order Receipt Restriction

1. Go to **Distribution Order Receipt Restrictions**.
2. Click the **New** button to add a new record.
3. Complete the fields in the Distribution Order Receipt Restrictions on page 3959view.
4. Click **Save** to continue.

Modifying a Distribution Order Receipt Restriction

1. Go to **Distribution Order Receipt Restrictions**.
2. Select a row and click **Edit**, or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting a Distribution Order Receipt Restriction

1. Go to **Distribution Order Receipt Restrictions**.
2. Select a row and double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Release Locked DO Shipper Confirms

This utility reports and optionally deletes stranded qad_wkfl records. DO Pre-Shipper Confirm and DO Shipper Confirm use qad_wkfl to keep track of Distribution Orders that are in the process of being confirmed. However, if the confirmation is aborted, the qad_wkfl records are stranded, and no shipper associated with any of these orders can be confirmed until the stranded qad_wkfl records are deleted.

Note This utility is for support purposes only and should only be used if support has requested this to be run.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

User

Enter a valid user. Leave blank to include all users.

Session

Enter a session. Leave blank to include all sessions.

Update

Select Yes to run this program in update mode and update records in the database.

Select No to run this program in simulation mode without updating the database.

Click **Run** to continue.

Planned Intersite Requests

The Planned Intersite Requests browse allows you to review the planned intersite requests generated by Material Requirements Planning (MRP) or Distribution Requirements Planning (DRP).

Approve action

Since DRP- and MRP-generated requests are automatically approved when they are generated, this step is optional. When an intersite request is modified, approved, or referenced in a distribution order at a supply site, its status at the demand site automatically changes to Exploded or Allocated. As with firm-planned requests, exploded and allocated requests are not replanned by DRP or MRP. You may need to manually approve intersite requests when:

- You do not want MRP or DRP to replan requests that have been reviewed by supply sites. This may apply when there is a long lead time between when an intersite request is received by a supply site and when it is manually approved or referenced in a distribution order at that site.
- Supply sites do not manually confirm intersite demand using the Confirm Demand action in Intersite Demand.

If you approve a request by mistake, delete it. It will be regenerated the next time DRP runs.

If you do not plan to expedite a planned request, you should delete it manually, especially if you do not plan to run DRP again for an extended period. The system assumes that you will expedite planned requests, so it considers them as sources of supply in MRP and DRP calculations.

You should define menu security for this program to restrict access.

Criteria Panel

Indicates the search criteria used in the Planned Intersite Requests browse filter. This field is read only.

Options Panel

Default Approve

Indicates whether all planned intersite requests are to be marked as approved.

When the checkbox is selected, it marks all of the selected planned intersite requests checkboxes as approved in the Requests grid.The approved checkbox can be changed manually as needed.

When the checkbox is not selected, it indicates that planned intersite requests are to be manually approved.

If most of the planned intersite requests are to be approved, it is faster to enable Default Approve and then manually unselect the approved field on the few intersite requests that you do not want to approve.

Intersite requests do not have to be approved. They are automatically communicated to the supplying site and are marked as approved when that site confirms the request by entering a confirmation or a distribution order.

Include Phantoms

Select or clear this checkbox as needed to determine if intersite for phantom items are considered by this function.

Phantom items are often used for transient assemblies or intermediate products—ones that are not (and often cannot be) received into stock but instead go directly into the next higher assembly or product. Phantom items are identified by the Phantom field in Items.

MRP processes phantom items in the same way as other items, you just normally do not have any in stock. When a work order requires a quantity of a phantom component, it blows through the phantom and lists its components on the work order picklist. However, if there is any of the phantom in stock it plans to use it first.

Phantom items are backflushed from the operation of the phantom's parent, even if the phantom's operation is entered in Product Structures. This may have a small impact on cost accuracy, but is a more stable and predictable means of tracking and coordinating the costs, especially where a phantom appears on multiple structures or where multiple levels in a bill use phantoms.

Since phantom items are not normally manufactured or stocked, this checkbox is normally left unselected.

Include MPS Items

This option is selected by default. Select this checkbox to include intersite requests for Master Production Schedule (MPS) items.

Master schedule items are typically end items, critical subassemblies, spares, service items, critical components, or key resources.

Include non-MPS Items

This option is selected by default. Select this checkbox to include intersite requests for non-MPS items.

Include GRC Items

Select to include intersite requests for Governance, Risk Management, and Compliance (GRC) items.

GRC aims to synchronize information and activity across governance, risk management, and compliance to operate more efficiently, promote information sharing and effective reporting, and avoid overlaps.

Request Panel

The Request panel displays the planned intersite requests that meet the criteria you set. After searching, the Request grid displays the data matching your criteria. You can then select intersite requests for approval and submit them to complete the action.

Selection Checkbox

Use the checkboxes to select the intersite requests to approve when you click Submit.

Use the box in the heading row to select or deselect all lines.

Requisition

A unique number used to identify an intersite request. This is the requisition number of the intersite request generated by the receiving site.

Site

Displays the site.

A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

All inventory control and planning information is maintained by site, including inventory availability, manufacturing methods and costs, sales, purchases, manufacturing plans and orders, and forecasts.

Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site or by groups of sites. Each site is also associated with a domain, which provides support for processing transactions between different domains, either in a single database or between connected databases.

Usually each site is divided into multiple locations where the inventory is actually stored. In this sense, a site is a group of physical locations such as stockrooms, inspection stations, and shop floors.

Item

Displays the inventory item defined in Items.

Item uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports can be selected by item.

Description

Displays the description of the item.

Quantity

Displays the quantity for this item in the planned intersite request.

Due Date

Displays the due date for the planned intersite request.

Using Planned Intersite Requests > Approve Requests Action

To use the Approve Requests action, perform the following steps:

1. Go to **Planned Intersite Requests**.
2. Filter the required records.
3. From the toolbar, select Actions > Approve Requests. The **Approve Requests** window appears.
4. Select the relevant checkboxes and click Search.
5. Select the planned intersite requests you want to approve.
6. Click Submit. A message appears confirming that the action is successful.

Intersite Requests

Use Intersite Requests at the demand site to manually create intersite requests or modify intersite requests that were generated by planning functions.

Intersite requests communicate item requirements among multiple sites within a company. Generally, they are automatically generated by the Material Requirements Planning (MRP) or Distribution Requirements Planning (DRP) modules in response to demand for items with Pur/Mfg codes of Distributed (D). However, you can also create them manually.

Each intersite request has the following elements:

- A header indicating the item number and quantity required for the requested item, along with a requested due date
- A detail portion, or demand record, referencing the item quantity ordered and the shipping site that is expected to fill this requirement

On system-generated intersite requests:

- The requisition ID is system-assigned and has the following format: MMDDxxxx, where MMDD is the month and day on which the request was generated and xxxx is an incrementing integer. For example, the first intersite request generated on November 29, 1999, would have the following requisition ID: 11290001.
- The system sets the site, item number, due date, and quantity on the request header based on demand data from MRP or DRP.
- Status defaults to P (planned).

On both system- and manually-generated intersite requests:

- The system sets the shipping site on the demand record based on the supply sites in the requested item's source network.
- Quantity ordered is calculated based on the item quantity in the header and the supply percentages associated with the supply sites in the source network.
- Ship date and due date are calculated based on the transit and unload lead times defined for the item's transportation network. If none are defined, the system uses the shipping lead time for the applicable source network.

On manually-generated intersite requests:

- Status defaults to F (firm planned).

Typical DRP Process Flow

Intersite requests are generated at a receiving (demand) site and transmitted to shipping (supply) sites when DRP is run or when MRP and DRP are run in coordination. The following is a typical process flow for executing DRP and expediting intersite requests and distribution orders.

1. Initial demand for DRP-planned items at the demand site is calculated by MRP or generated by sales orders and forecasts.
2. DRP generates planned intersite requests at the demand site.
3. Planners modify and approve intersite requests at the demand site. Since DRP- and MRP-generated requests are approved by default, this step is optional. Using the Approve Requests action in Planned Intersite Requests to manually approve intersite requests changes their statuses from Planned to Firm Planned. The system does not alter these requests when MRP or DRP is run again. Request status, due date, receiving location, quantity ordered, and transportation code can all be modified on individual requests at the demand site.
4. Intersite requests generated by DRP create item demand at supply sites. When a required item's network code divides demand among multiple sites using a supply percent, the system generates item demand at each supply site in the network.
5. Item demand at the supply site is considered as gross requirements for requested items when MRP is run at that site. Typically, the supply site uses master scheduling functions to manage these requirements.
6. Optionally, review and manually confirm intersite requests at the supply site using the Confirm Demand action in Intersite Demand. At this time, you can adjust some information, such as the item due date, transportation code, inventory quantities, and financial data. Changes to intersite requests at supply sites are reflected at the demand site. Similarly, changes to intersite requests at the demand site are visible at supply sites. Requests that have been modified or confirmed at the supply site have a status of Exploded and are not replanned when DRP is next run.
7. At the supply site, group intersite requests by combining them in a distribution order using Distribution Orders, or the Distribution Order Workbench action in Distribution Orders. You can also create intersite requests dynamically in Distribution Ordersor Distribution Order Processing. Attaching an intersite request to a distribution order changes its status to Allocated.
8. At the supply site, optionally print orders with Distribution Order Print and pick items by generating a picklist with Distribution Order Picklist Print. (Picking can also be done in Distribution Orders).
9. Ship orders with the Ship Allocated action in Distribution Orders. You can create shippers for a DO when a valid shipping group is associated with the ship-from and ship-to sites.
10. At the demand site, use the Recieve Order action in Distributed Orders to record the receipt of distribution order shipments.
11. Delete or archive intersite requests at the demand site using Intersite Request Delete and Archive.
12. Delete or archive intersite requests at the supply site using Closed Intersite Demand Delete & Archive.

Managing Database Connections

You can use DRP to distribute demand to sites within a domain, to sites in different domains within the same database, or to sites in domains in other databases.

When DRP is run or MRP and DRP are run in combination and the sites in separate databases are connected over a network, item demand is immediately communicated to the supplying sites over the network.

When the sites are not network connected or the connection between the supplying and demand databases is temporarily unavailable, the demand site can do one of the following to transfer or export demand records to the supply site after running DRP:

- Use the Import/Export functions in the Intersite Demand browse to either place the demand records in an ASCII file to send to the supply site or to import a file into the supply site's database

  Note The Import/Export functions in the Intersite Demand browse only transfer information from the demand database to the supply database.

Intersite Request Status Codes

The following intersite request status codes correspond to stages in a request's life cycle.

P (Planned). This status applies to system-generated requests only. Planned requests can be deleted or replanned by the system the next time MRP or DRP is run.

F (Firm Planned). This is the default status for intersite requests created in Intersite Request Maintenance. Firm planned requests are not rescheduled by MRP or DRP. Instead, the system generates action messages suggesting changes. You can manually update requests with this status, as needed.

E (Exploded). The status of an intersite request is changed to Exploded when the supplying site confirms the request with Intersite Demand Confirmation. For confirmed requests, DRP plans using the confirmed quantity and due date. The original quantity and due date remain for comparison.

A (Allocated). The status of an intersite request is changed to Allocated when the supplying site references this intersite request on a distribution order (DO). This is the default status for intersite requests created in Intersite Demand Confirmation or dynamically as part of creating a DO.

Since intersite request status codes are identical to work order status codes, you can manually set request statuses to Batch (B), Released (R), or Closed (C). The B and R status codes have no system-assigned significance for intersite requests, but individual demand sites may use

them for special purposes. For example, you might manually assign a status of Released to requests when you receive confirmations from supply sites.

Manually setting the status of an intersite request to C (closed) does not change any quantities associated with the request. It does, however, have the following effects:

- Reduces the quantity on order in the inventory master at the receiving site by the quantity open on the request.
- Lets you archive/delete the intersite request even though the quantity shipped is not the same or greater than the quantity confirmed.

Manually Creating Intersite Requests

When you manually create an intersite request, the system automatically generates a demand record for each supply site in the requested item's source network. If you need to create an intersite request that references a shipping site other than a supply site in the requested item's source network, you must do the following:

1. Create a demand record for the required shipping site, order quantity, and other data as needed.
2. Manually delete the demand records that were automatically created by the system based on the source network data. Otherwise, demand records are created for all of the supply sites in the requested item's source network as well as for the shipping site or sites you specified manually.

Manually Creating Intersite Requests Example

Subassembly item A-100 is typically shipped from site 9000 to site 7000 in quantities of 500 per week. The network code associated with item A-100 at site 7000 references site 9000 as the supply site, with a supply percentage of 100%. One week, due to a machine failure, site 9000 is unable to manufacture enough of item A-100 to meet site 7000's request for 500 items.

Site 3000 also stocks item A-100. Therefore, the inventory planner at site 7000 manually creates an intersite request for component A-100, specifying an item quantity of 500 and referencing site 3000 as the shipping site.

The planner must then manually delete the demand record that the system automatically created for site 9000 with a quantity of 500. Otherwise, a gross requirement for 500 items is created at sites 9000 and 3000, and the total number of requested items (1000) is considered by MRP as a source of supply at the demand site.

Intersite Requests View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the intersite request you are working on, including the requisition, ship-to and item. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Ship-To

The ship-to or dock address code to which this pre-shipper is to be delivered. This field is mandatory.

The site which has a requirement for the specified items.

This is the site where the items are to be shipped. When accessing transportation information, this is referred to as the receiving site.

All intersite requests specify a receiving and at least one supplying site. A request can be filled by more than one site.

Most DRP reports and inquires can be selected and sorted by receiving site.

Normally intersite requests are created by running DRP at the receiving site, but they can be maintained manually.

Pre-Shipper

The system assigns a pre-shipper record.Along with Ship-From, the pre-shipper uniquely identifies a pre-shipper record.

Location

The location where this item is to be delivered.

Locations identify physical locations where inventory is stored.

When the intersite order is received, this location displays as the default. It can be changed, as needed.

Every item in inventory is associated with a location. A given item can be stored in multiple locations. The location code must be specified on every inventory transaction--issues, receipts, transfers, and counts.

Locations can be used to select specific information to appear on reports.

Item

The item to be replenished from this intersite request.

Usually this is a DRP item, one that is supplied to this site from another site in the source network. The network code specified on this item determines the site from which it is normally supplied.

Most reports can be selected and sorted for ranges of item codes.

Any item can be replenished through the distribution network, not just DRP items. For example, an item might normally be manufactured but, in a period of short supply, could be supplied by a sister factory. In this case intersite requests can be entered rather than releasing manufacturing orders.

Order Date

The default is the system date.

The date this intersite request was created.

Reports can be selected for ranges of order dates.

Due Date

Enter the date when the items on this request are due to be received at the specified site. For a new intersite request, this defaults to blank. If left blank, due date is set to the order date; the request cannot be saved with a blank due date.

Due date is used by planning at the receiving site, ensuring that the right materials are available when needed to satisfy manufacturing and sales demands. If due dates are scheduled too late or too early, rescheduling messages are printed.

Due date is also used for planning at the supplying site. The system calculates the default ship date on an intersite request based on:

- The due date from the request header
- The load, transit, and unload lead times defined in Transportation Networks for the transportation mode specified on the detail portion of the request

To calculate a default ship date, the system:

1. Subtracts the unload lead time from the request due date to determine when items should arrive at the demand site.
2. Adjusts the calculated arrival date to fall on a receive day defined in Transportation Networks. This date displays as the due date on the detail portion of the request.
3. Subtracts the transit lead time from the arrival date to determine when items should depart from the supply site. All calendar days, including holidays and nonworking days, are considered in this calculation.

4. Subtracts the load lead time from the departure date to determine when loading should begin at the supply site. This date displays as the ship date on the request detail.

   Note If values defined in Transportation Networks do not apply to the transportation mode specified on the intersite request, the lead time from Source Networks is used to calculate a default ship date.

Calculations performed at steps 1, 2, and 5 consider only dates indicated as working days in Customer Calendars and Holidays. For example, an item has a Tuesday due date, an in-transit lead time of two days, and a load lead time of one day. If Saturday and Sunday are defined as nonworking days or holidays, the item ship date on the intersite request defaults to Thursday rather than Friday.

Material Requirements Planning (MRP) considers ship dates when calculating demand at DRP supply sites.

Quantity Required

The total quantity required of this item at this site, expressed in terms of the item unit of measure.

The order quantity is the total number of units of the item that the receiving site has requested from its sources of supply, to be delivered as of the specified due date. This quantity can be supplied from more than one site.

MRP at the receiving site is counting on having this quantity available for shipment or issue to manufacturing by that due date.

Requisition

A unique number used to identify this intersite request.

Whenever you enter a intersite request, it must be assigned a unique request number. These can be entered manually or you can let the system assign the next number. This next intersite request number is taken from DRP Control and incremented automatically by the system.

Intersite request numbers are used for selecting specific information to appear on reports.

Status

Values can be A, B, C, E, F, P and R. (You cannot set order status to P.)

Validated against predefined values entered in Generalized Codes, if any.

When a new intersite request is added, this defaults to F.

Indicates the current status of an intersite request.

Like work order status, intersite request status is used to track the status of an order. Status mainly determines whether the request

quantity and due date can be changed by DRP, and whether the request has been confirmed by the supplying sites.

Status codes normally are:

P, for Planned - Planned intersite requests are created, changed, or deleted as needed by DRP. You cannot enter a planned intersite request manually. Once confirmed, the status of an intersite request is changed to one of the following status codes.

F, for Firm Planned - These are requests that cannot be rescheduled automatically by DRP. They are fixed in quantity and time relative to the DRP process, although they can be changed manually.

Other status codes can be assigned, perhaps indicating the receipt of a confirmation from the supplying sites.

You can make sure that codes are entered consistently by entering the allowed codes into Generalized Codes. The system verifies entered codes against these predefined values, preventing incorrect codes from being entered.

Sales/Job

For a new order, the default is blank. For an existing order, the default is the Sales/Job from the first detail line.

An optional numberused to associate this intersite request with a specific sales/job.

Several reports can be selected by sales/job number.

Sales/job numbers can be referenced on purchase orders, work orders, and intersite requisitions, allowing you to review the progress of all activities associated with a particular sales order, contract, or job number. Sales/job numbers are not validated.

Use project to record the cost of a particular job in the GL.

Remarks

General remarks pertaining to this intersite request.

This field is for reference only and appears on various reports.

Order Panel

Click on Details to acess the **Intersite Details** view, where you can create or edit orders.

Main Panel (Intersite Details)

Ship-From

The site from which the items will be shipped, also referred to as the supplying site.

All intersite requests specify a receiving and at least one supplying site. A request can be filled by more than one site. The quantity requested

from this site represents an MRP demand on the supplying site and a source of supply at the receiving site.

Most reports and inquiries can be selected and sorted by shipping (supplying) site.

Normally intersite requests are created by running DRP at the receiving site, but they can be maintained manually.

Quantity Ordered

When an intersite request is created by DRP, the quantity ordered from each supplying site is calculated as the total requirement quantity multiplied by the supply percentage specified on the source network. When an intersite request is entered manually, the quantity ordered defaults to the total quantity required at the receiving site.

The quantity to be shipped from this site.

All intersite requests specify a receiving and at least one supplying site. A request can be filled by more than one site. The quantity requested from this site represents an MRP demand on the supplying site and a source of supply at the receiving site.

Most reports can be selected and sorted by shipping (supplying) site.

Normally intersite requests are created by running DRP at the receiving site, but they can be maintained manually.

Transportation Code

The transportation method used for shipping items to the receiving site. Blank is not allowed unless explicitly defined in Transportation Modes.

When specified, the shipping site can select and group intersite requests for shipment based on the transportation method specified. After items are shipped, in transit inventory can be reviewed by transport ID.

Transportation code is not required, but is normally specified when items require a specific transportation type--pipeline or refrigerated container.

At the shipping site, distribution orders can reference a transportation code. When the distribution order is shipped the quantity shipped is temporarily recorded in a goods in transit inventory location at the in transit site specified on the order. The location code is set automatically to the transportation code. When items are received at the other site, this location is relieved.

If you are not using Automatic Locations, make sure that each of your transportation codes is set up in Locations. Normally in transit inventory is non-nettable and not available.

Ship Date

Enter the date to begin the loading and shipment process at the source site. The system calculates a default based on:

- The due date from the header
- The load, transit, and unload lead times defined in Transportation Networks for the transportation network specified on the detail portion of the request

The system follows these steps to calculate the default ship date:

1. Subtracts the unload lead time from the request due date to determine when items should arrive at the demand site.
2. Adjusts the calculated arrival date to fall on a receive day defined in Transportation Networks. This date displays as the due date on the detail portion of the request.
3. Subtracts the transit lead time from the arrival date to determine when items should depart from the source site. All calendar days, including holidays and nonworking days, are considered in this calculation.
4. Subtracts the load lead time from the departure date to determine when loading should begin at the source site. This date displays as the ship date on the request detail.

Note If values defined in Transportation Networks do not apply to the transportation mode specified on the intersite request, the lead time from Source Networks is used to calculate a default ship date.

Calculations performed at steps 1, 2, and 5 consider only dates indicated as working days in Customer Calendar and Holidays. For example, an item has a Tuesday due date, an in-transit lead time of two days, and a load lead time of one day. If Saturday and Sunday are defined as nonworking days or holidays, the item ship date on the intersite request defaults to Thursday rather than Friday.

You can change the default ship date directly by editing it or indirectly by changing the transportation code in the request detail. When the ship date is changed on a distribution order or demand record at the source site, it is automatically updated on the corresponding intersite request.

MRP considers ship dates when calculating demand at DRP source sites.

Due Date

If left blank, due date defaults to the order date.

The date when the items on this request are due to be received at the specified site.

Due date is used by planning at the receiving site, ensuring that the right materials are available when needed to satisfy manufacturing

and sales demands. If due dates are scheduled too late or too early, rescheduling messages are printed.

Due date is also used for planning at the supplying site. The required ship date is calculated based on the due date at the receiving site, transport lead time, and shipping schedules. This ship date becomes the due date at the shipping site, used by planning to ensure the right materials are available when needed to satisfy intersite demands.

Most reports can be selected for ranges of due dates.

Project

Enter an optional code identifying the general ledger (GL) project associated with this line item. This field defaults from the order header Project field.

Project codes are one component of an account number defined in GL setup functions. Other components of account numbers are account, sub-account, and cost center code. Project codes are not available for all GL transactions. Each component you enter must be valid on its own and in combination with the other account number components.

Although project details are not printed on standard financial statements, project summary and detail transaction reports are available to review project activity. Inventory value, but not physical inventory, can be tracked by project codes.

Remarks

General remarks pertaining to this intersite request.

This field is for reference only and appears on various reports.

Quantity Confirmed

The quantity that the supplying site has agreed they will ship to the receiving site on the specified date.

Confirming an intersite request sets the request status to Firm Planned and communicates the confirmed quantity back to the receiving site. This confirmed quantity is the quantity MRP uses for planning at both the receiving and supplying site.

An intersite request can be confirmed with a different quantity than was requested. When the quantity is less, DRP at the receiving site will see the shortage and take action. When the quantity is greater, DRP will display an action message and projected quantity on hand reflects the surplus.

The system maintains a record of the original quantity ordered along with the quantity confirmed and the quantity shipped, and all three appear on most reports and inquiries.

Confirming an intersite request or entering a distribution order automatically changes the request status to F, for Firm Planned. If requirements change at the receiving site, an action message displays

but this request will not be changed. Normally intersite requests are only confirmed for a short period of time, usually the same as the time fence on the item.

Quantity Received

The quantity received against this intersite request.

This quantity is updated by the system whenever a Distribution Order Receipt is processed. The system maintains a record of the quantity shipped from the supplying site and the quantity received at the receiving site; the difference is goods in transit. Most reports show all three.

Quantity Shipped

The quantity shipped against this intersite request.

This quantity is updated by the system whenever a Distribution Order Issue (Shipment) is processed. The system maintains a record of the original quantity ordered along with the quantity confirmed and the quantity shipped, and all three appear on most reports.

Order

Distribution order numbers must be unique.

Distribution order (DO) number uniquely identifies a group of intersite requests due to be shipped from the source site.

Whenever you enter a distribution order, it must be assigned a unique order number. These can be entered manually or you can let the system assign the next number. This next distribution order number is taken from Distribution Management Control and incremented automatically by the system.

Distribution order number is used for selecting specific information to appear on reports.

Distribution orders are used for accumulating a group of intersite requests, printing packing lists, and recording shipments and receipts.

Normally you just let the system assign the next sequential order number. However, in some situations, you may wish to designate ranges of order numbers to identify specific types of orders. This can be done by entering order numbers manually. The system makes sure that duplicates are not entered.

In Transit Site

Specify the site owning goods in transit. This is typically the receiving site, but you can change the default as needed. When items on a distribution order are shipped, the item quantity is moved to a location

at the in-transit site. The location corresponds to the transportation code associated with the intersite request.

When a receipt is processed at the receiving site, inventory is reduced at the in-transit location and increased at the receiving location.

Notes Panel (Intersite Detail)

On the **Notes Details** view, you can add and edit notes attached to the intersite request line in the intersite request.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the intersite request.

Reference

Select a reference for the note.

Language

Select the language for the note.

Type

Select the document type for the note.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the intersite request.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the intersite request.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Intersite Requests

1. Go to **Intersite Requests**.

2. Click **New**.
3. Complete the fields described in Intersite Requests View on page 3970.
4. Click **Save** to create the new record.

Modifying Intersite Requests

1. Go to **Intersite Requests**.
2. Select the row of interest, then click **Edit** or double-click the row.
3. Modify the required fields. You can consult the editable fields in Intersite Requests View on page 3970
4. Click **Save** to update the record.

Deleting Intersite Requests

1. Go to **Intersite Requests**.
2. Select the row of interest, then click **Edit** or double-click the row.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

DO Backlog & Missed Shipments

DO Backlog & Missed Shipments

Settings Panel

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Panel

The Filter panel which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Ship-From

Optionally, enter a range of sites from which the items are shipped on a distribution order. Leave blank to include all distribution orders matching other selection criteria.

All intersite requests specify a receiving site and at least one supplying site. A request may be filled by more than one site. The quantity requested from this site represents an MRP demand on the supplying site and a source of supply at the receiving site.

Ship-To

Optionally, enter a range of sites to which the items on this distribution order are shipped. Leave blank to include all distribution orders matching other selection criteria.

Due Date

Optionally, enter a range of due dates. Leave blank to include all distribution orders matching other selection criteria.

To generate the report click **Run**.

DO Shipper Delete/Archive

Select documents to delete and archive by ship-from site, ship-to address, document number, inventory movement code, ship date, and GL effective date. You can also choose to select documents based on their cancel and confirm status.

The value of Allow Discarding specified in Number Ranges used to generate shipper numbers affects which documents can be deleted. When Allow Discarding is No, the system does not permit any gaps in numbering sequence. If the selection criteria you enter would result in any documents (either confirmed or unconfirmed distribution order shippers or distribution order pre-shippers) being left in the system with lower numbers than the deleted documents, the delete fails. In this case, the program displays appropriate error messages.

To complete the archive and delete, you must change your selection criteria to include all numbered documents with Allow Discarding set to No.

The system does not automatically delete historical information at period or year-end. You can delete this information as often as you prefer, depending on how long you need to retain historical information in your database. Most companies keep historical data for at least one year or longer, depending on disk space availability.

Run this function twice. First, run it with Delete set to No and review the report. Then, run it with Delete set to Yes.

When you set Delete to Yes, shipper records that satisfy the selection criteria are deleted from the database. If you set Archive to Yes, deleted data is copied to an ASCII file that can be reloaded. Otherwise, deleted data cannot be recovered.

When Archive is Yes, selected data is stored in a file named *doYYMMDD.hst* where do is the record type and YYMMDD is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran delete & archive the same day, the system adds the additional archived records to the end of the file.

The generated file has no internal label or content description. Therefore, keep a record of the file name and contents in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Note

Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, temporarily change your country code in Users to match that of the user who archived the data.

You should define menu security for this program.

DO Shipper Delete/Archive View

Settings Panel

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Panel

The Filter panel which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Ship-From

Optionally, enter a range for the shipping sites. Only distribution order (DO) shippers with a ship-from site falling within the site range you enter are considered. Leave blank to include all distribution orders matching other selection criteria.

Ship-To

Optionally, enter the range of receiving sites. You must enter either a ship-to or sold-to address. Leave blank to include all distribution orders matching other selection criteria.

Number

Enter a range of distribution order shipper numbers to delete/archive. The system considers only shippers with a shipper number falling within the shipper number range you enter here for deleting/archiving DO shippers. Leave the field blank to delete/archive all DO shippers regardless of the shipper.

Inventory Movement Code

Enter a range of inventory movement codes. The system only considers inventory movement codes within the range you specify for deleting/archiving DO shippers. Leave the field blank to delete/archive all DO shippers regardless of the inventory movement code.

Ship Date

Enter a range of ship dates to select DO shippers to delete/archive. Only shippers with a ship date falling within the date range you enter are considered for delete/archive by this function. Leave the field blank to delete/archive all DO shippers regardless of the ship date.

Effective Date

Enter a range of effective dates for selecting shippers to delete/archive. Only shippers with an effective date falling within the date range you

enter are considered for delete & archive by this function. Leave the field blank to delete/archive all DO shippers regardless of the effective date.

Pre-Shipper/Shipper

Select the type of document to delete/archive. The system includes only distribution order pre-shippers and unconfirmed distribution order pre-shippers or distribution order shippers without any line items.

Confirmed

Indicates whether the system deletes/archives confirmed distribution order pre-shippers and distribution order shippers.

- **Yes**: Confirmed DO pre-shippers and shippers without any line items are deleted & archived. By default, this option is selected.
- **No**: Confirmed DO pre-shippers and shippers are not processed.

Unconfirmed

Indicates whether the system deletes/archives unconfirmed distribution order pre-shippers and distribution order shippers.

- **Yes**: Unconfirmed DO pre-shippers and shippers without any line items are deleted/archived.
- **No**: Unconfirmed DO pre-shippers and DO shippers are not processed. By default, this option is selected.

Canceled

Indicates whether the system deletes/archives canceled distribution order pre-shippers and distribution order shippers.

- **Yes:** Canceled DO shippers and DO pre-shippers are processed by this function. By default, this option is selected.
- **No:** Canceled DO shippers and DO pre-shippers are not processed.

Uncanceled

Indicates whether the system deletes/archives uncancelled distribution order pre-shippers and distribution order shippers.

- **Yes:** Canceled DO shippers and DO pre-shippers are processed by this function. By default, this option is selected.
- **No:** Canceled DO shippers and pre-shippers are not processed.

Delete

Indicates whether to delete the selected records or generate a report only.

- **Yes:** The selected records are deleted from your database and listed in a report.

- **No:** The selected records are not deleted. A report is generated listing the selected records. By default, this option is selected.

If you set Archive to Yes when Delete is Yes, the selected records are copied to an ASCII file before deletion.

Archive

Indicates whether to archive the selected records.

- **Yes:** The selected records are copied to an ASCII file. The system creates a file name in the following format: xxYYMMDD.hst, where xx identifies the module code or record type and YYMMDD is the file creation date. If this file does not exist, it is created. If it does exist, records are appended to the end of the file.
- **No:** The selected records are not copied to an ASCII file. By default, this option is selected.

Archive File

Displays the filename that will contain the exported data. Although the system generates a comma-delimited file, it does not add an extension. For example, if you want the file to be accessible to an external application that recognizes comma-separated value files, add .csv to the file name.

To generate the report click **Run**.

DO Pre-Shipper & Shippers

You can include Distribution Order Pre-Shippers or Distribution Order Shippers:

- That are confirmed or unconfirmed.
- That were cancelled or have shortages.

Select shippers to report by range of ship-from address, ship-to address, number, inventory movement code, item, or requisition.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Ship-From

Enter a range of ship-from sites for selecting records to display.

Ship-To

Enter a range of ship-to addresses for selecting records to include in the report.

Number

Specify a range of Distribution Order Pre-shipper or Distribution Order Shipper numbers to include in the report.

Inventory Movement Code

Enter a range of inventory movement codes to include in the report.

Item

Enter a range of items to include in the report. Leave blank to begin with the first one in the table.

Requisition

Enter a range of requisition numbers to include in the report.

Pre-Shipper/Shipper/MBOL

Determines whether to include Distribution Order Pre-shippers or Distribution Order Shippers in the report. The default is Shipper.

- Pre-Shippers: The number(s) entered in the Number field filters are for Distribution Order Pre-Shippers.
- Shippers: The number(s) entered in the Number field filters are for Distribution Order Shippers.

Confirmed

Indicates whether confirmed Distribution Order Pre-Shippers or Distribution Order Pre-shippers should be included in the report. The default is No.

Include Canceled

Specifies whether canceled Distribution Order Pre-Shippers or Distribution Order Pre-shippers should be included in the report. The default is No.

Include Shortages

Specifies whether Distribution Order Pre-Shippers or Distribution Order Pre-shippers with shortages should be included in the report. The default is No.

Click **Run** to generate the report.

DO Pre-Shipper/Shipper Print

The range of values you enter in the **DO Pre-Shipper/Shipper Print** filter determine which documents to print. Each of these fields includes a From and a To value. Leaving any of these fields blank results in the system considering all pre-shippers or shippers, regardless of the value of the field.

Note If the document does not print as expected, check whether transaction blocking has been applied to the customer using **Blocked Transactions**.

When you print pre-shippers, you can optionally convert them to shippers by specifying Yes to Assign Shipper Numbers. The shipper number is assigned based on the Number Range Management (NRM) sequence ID from the shipping group of the shipment or from the Container/Shipper panel in **Logistics Control.**

Note: You can also assign shipper numbers with the Confirm action in **Distribution Order Pre-Shippers** and **Distribution Order Shippers**.

Reprinting Documents

If necessary, you can use this function to reprint documents previously printed here or in other shipping programs. To do this, use the following settings:

Include Printed Pre-Shippers/Shippers: Yes

Assign Shipper Numbers: No

The document printed with this program is not exactly the same as the document printed with **DO Picklist & Pre-Shipper-Automatic**, since the intended use is different. If you need to regenerate a picklist, set the quantity picked to zero for the pre-shipper in **Distribution Order Pre-Shippers** or delete the pre-shipper and reprint it using **DO Picklist & Pre-Shipper-Automatic**.

Assigning Shipper Numbers

When printing completes, you are prompted to confirm that the documents printed correctly. Review the printed shipping documents and respond appropriately. If you enter No, documents are considered unprinted.

When you indicate that the documents did not print correctly and you specified Yes to Assign Shipper Numbers, you are also prompted to undo the shipper number assignment. If you reply Yes to this second prompt, the system reinstates the pre-shipper and either cancels or deletes the shipper that was created.

How the shipper is affected depends on the setting of Allow Discarding specified in Number Range for the NRM sequence used to generate the shipper number.

- If Allow Discarding is Yes, the system reinstates the pre-shippers and deletes the shipper documents. The next shipper number generated starts after the last deleted shipper number, leaving a gap in numbering.
- If Allow Discarding is No, the system reinstates the pre-shippers and creates empty shippers (without detailed lines), with a status of canceled.

Serialized Product

Normally, this program displays shipper data at inventory level; so, the system displays only the pending picked items. However, if you use a pre-shipper/shipper function that uses serialization functions, the system displays pending picked items as well as the master serial IDs of the picked pack. The system displays the data under a Pending Pick label in the display or when printed. When you fully pick for the shipper by pack or you do not use serialization functions when picking, the Pending Pick label does not print or display.

The system also displays a Picked label in the Item section of the display that shows picked master serial IDs that you fully or partially picked for the DO request and Qty in the list.

Settings

The Settings panel, which is closed by default, includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Ship-From

Enter the range of ship-from sites. The system prints only Distribution Orders Pre-Shippers or Shippers with a ship-from site falling within the site range you enter here.

Ship-To

Enter the range of ship-to addresses. You must enter either a ship-to or sold-to address.

Number

Specify a Distribution Order pre-shipper/shipper number. This function prints only pre-shippers or shippers with a number falling within the number ranges you enter here.

Inventory Movement Code

Enter a range of inventory movement codes. Only those shippers with inventory movement codes that fall within the specified range print.

Leave the fields blank to print all shippers regardless of their assigned inventory movement code.

Document Format

Specify a range of document formats of a type applicable to DO shippers to be considered by this function. You specify shipper document format in the Container/Shipper panel in Logistics Control

Language ID

The language ID to include in this report.

Language is particularly useful when printing formal documents like sales orders, service contracts, or purchase orders. These print functions can be run by selecting only a range of language IDs. This allows you to use different pre-printed forms in different languages.

Comment information is also stored in the system with a language ID. When comments are accessed, for example, during order entry, the system searches for comments stored in the native language for this address. This allows you to quickly and easily access text, such as customs documentation or item descriptions, in the correct language.

Each address has a default language assigned and this language is carried on all sales, service/support, and purchasing transactions. When reports are selected by language ID, the system only includes transaction or address information with this ID. If you have a multiple language environment, report labels print in the specified language.

Selecting reports based on language ID allows you to load preprinted forms in the correct language and make any other selections (such as Form Code) so that formal documents are printed correctly.

Only variable information prints in other languages. Text that is entered into the system manually, such as item descriptions or country names, is not translated. It prints in the language in which it was entered.

Carriers

Enter a range of carrier addresses. Master bills with carriers outside the specified range do not print. Leaving the fields blank causes master bills to print regardless of the carrier address.

For master bills with multiple carriers, the system checks only the first carrier address.

Print Pre-Shippers-Shippers

Determines whether to process pre-shippers or shippers.

Pre-Shippers: Pre-shippers are selected for processing; Number fields qualified to specify pre-shipper numbers.

Shippers (default): Shippers are selected for processing; Number fields qualified to specify shipper numbers.

Include Printed Pre-Shippers/Shippers

Indicate whether printed distribution order pre-shippers and shippers are reprinted.

Yes: Also print already-printed pre-shippers and shippers.

No: Do not reprint already-printed pre-shippers and shippers.

Assign Shipper Numbers

Indicate whether the system assigns a shipper number to distribution order pre-shippers that have been selected for printing.

Yes: The system transforms pre-shippers selected for printing into shippers by assigning to them the next available shipper number from Container/Shipper panel in Logistics Control.

No: The system does not assign shipper numbers to pre-shippers selected for printing.

If you do not assign shipper numbers to pre-shippers in this function, the system assigns numbers for all pre-shippers with in the Confirm action in Distribution Order Pre-Shippers.

Shipper Sequence ID

Enter the Number Range Management (NRM) sequence code used for the shippers you are printing.

For printing pre-shippers: The system compares the value entered in this field to the sequence used to assign the shipper number to each shipper. The sequence used to assign the pre-shipper number is not considered. Pre-shippers matching this criteria are printed.

For printing shippers: The system compares the value entered in this field to the sequence that was used to assign the shipper number to each shipper. Shippers matching this criteria are printed.

Leaving this field blank causes all shippers to print, regardless of their assigned sequence code.

This field limits the records selected for printing. This is necessary when the system must assign shipper numbers sequentially at print time. Because a shipper number can be drawn from multiple existing NRM sequences (depending on the shipping group and inventory movement code for the shipper), limiting selection to a single sequence ensures that numbers are assigned sequentially as documents are printed.

Include Shipper Comments

Use this option with the parameter Max Lines on a Pre-Shipper in the Container/Shipper panel in Logistics Control to determine whether

the system considers the size of pre-shipper/shipper comments when calculating the maximum number of lines to be printed on the shipper.

Yes: Enough room is left on each page to print associated pre-shipper/shipper comments.

No: The space required to print pre-shipper/shipper comments is not considered when calculating how many lines to print on a page.

If the parameter Max Lines on a Pre-Shipper in the Container/Shipper panel in Logistics Control equals zero, this option has no effect.

Include Packing List Comments

Use Include Packing List Comments with the parameter Max Lines on a Pre-Shipper in Container/Shipper panel in Logistics Control to determine whether the system considers the size of pack list comments when calculating the maximum number of lines to be printed on the shipper.

Yes: Enough room is left on each page to print associated pack list comments.

No: The space required to print pack lists comments is not considered when calculating how many lines to print on a page.

If the parameter Max Lines on a Pre-Shipper in the Container/Shipper panel in Logistics Control equals zero, this option has no effect.

Print Distribution Order Detail

Indicate whether the system includes the distribution order number and the requisition number associated with items on the shipper in printed output.

Reviewing distribution order data provides detailed accountability for the shipper items. It can also be used to determine if the distribution order or requisition number associated with an item on a shipper no longer exists in the system. This condition causes an error when you confirm or issue the shipper.

Entity Code

Enter the company address to print at the top of this shipper/pre-shipper. Define company addresses in Companiesy Address .

Forms are designed to print your company name and address in the top left corner so that all formal documents can print on blank paper.

To print on paper preprinted with your company name and address, suppress address printing by leaving this field blank.

Print Lot/Serial number

Specify whether a complete list of all of the lot/serial and lot reference numbers shipped prints on this shipper or pre-shipper.

Yes: Each line shipped is followed by a list of the lot/serial and lot reference numbers shipped. Also, when you have serialization functions enabled, the system displays a Pending Pick label in the Lot/Serial portion unless you fully pick for the pre-shipper or shipper by pack. The system also prints picked data in the Lot/Serial section of the display so that you can see the lot or serial numbers in the picked packs.

No: Only the total shipped quantity prints for each line item

Print Item Serial

Specify whether to print the serial number of the items in the report.

Remove Pending Pick Quantity

Specify whether to remove any Intersite Request requisitions that are pending pick.

Click **Run** to print the report.

Intersite Demand

Use the Intersite Demand browse to to review, import, export and confirm intersite demands.

Confirm Demand action

- Approve an intersite request at the ship-from (supply) site identified on the record.
- Optionally, modify request data such as the item due date, ship date, quantity confirmed, and transportation code.
- Record general or detail allocations for items on the request.
- Manually create intersite requests as needed.

When you modify or confirm an intersite request at the ship-fromshipping site, the status at both the ship-fromshipping and ship-toreceiving sites is changed to Exploded.

Note Pressing Delete in a demand record does not delete the associated record from the system. However, it does set the quantity confirmed to zero (0).

Changes to intersite requests at the ship-fromshipping site are reflected at the ship-toreceiving site. This includes changes to the quantity confirmed and due date, although the original quantity ordered and due date remain on the modified requests for reference. If any part of a request is confirmed at the ship-fromshipping site, DRP uses confirmed quantities and dates when planning at the ship-toreceiving site. Otherwise, DRP uses the quantities and due dates generated by the system.

Confirming intersite requests is optional. You do not need to confirm requests to reference them on distribution orders and ship items to demand sites.

Intersite Requests

Intersite requests communicate item requirements among multiple sites within a company. Typically, they are generated automatically by the Material Requirements Planning (MRP) or Distribution Requirements Planning (DRP) modules in response to demand for items with Pur/Mfg codes of Distributed (D). However, they can also be created manually.

Intersite request detail is stored in two separate database tables: one at the demand (ship-to) site (dsd_det) and one at the supply (ship-from) site (ds_det). Most of the fields in these two tables correspond. Additional fields contain data unique to the intersite request at the demand site, such as quantity received, or unique to the supply site, such as quantity confirmed. As changes are made to the record at either site, the system makes sure that corresponding fields in both tables are updated.

Note If the two sites belong to domains in different databases, database connections can be required to ensure that these updates take place. See the section below on Managing Database Connections.

An intersite request includes the following details:

- The item and quantity required for the requested item, along with a requested due date
- The item quantity ordered and the ship-from site that is expected to fill the requirement

When the request is generated by MRP or DRP at the ship-to site, the system sets the ship-from site, site, item, ship date, due date, and quantity ordered at the supply site based on:

- Demand data from MRP or DRP at the demand (ship-to) site
- Data associated with the required items' source and transportation networks at the demand site

Typical DRP Process Flow

The following is a typical process flow for executing DRP, expediting intersite requests at the demand site, and handling intersite demand at supply sites.

1. Initial demand for DRP-planned items at the demand site is calculated by MRP or generated by sales orders and forecasts.
2. DRP generates planned intersite requests at the demand site.
3. Planners modify and approve intersite requests at the demand site. Since DRP- and MRP-generated requests are approved by default, this step is optional. Using Intersite Requests > Approve Requests actional to manually approve intersite requests changes their statuses from Planned to Firm Planned. The system does not alter these requests when MRP or DRP is run again.
4. Intersite requests generated by DRP create item demand at supply sites. When a required item's network code divides demand among multiple sites using a supply percent, the system generates item demand at each supply site in the network.
5. Item demand at the supply site is considered as gross requirements for the requested items when MRP is run at that site. Typically, the supply site uses master scheduling functions to manage these requirements.
6. Optionally, review and manually confirm intersite requests at the supply site using the Confirm Demand action. At this time, you can adjust some information, such as the item due date, transportation code, inventory quantities, and financial data. Changes to intersite requests at supply sites are reflected at the demand site. Similarly, changes to intersite requests at the demand site are visible at supply sites. Requests that have been modified or confirmed at the supply

site have a status of Exploded and are not replanned when DRP is next run.

7. At the supply site, group intersite requests by combining them in a distribution order using Distribution Orders. You can also create intersite requests dynamically in Distribution Orders. Attaching an intersite request to a distribution order changes its status to Allocated.
8. At the supply site, optionally print orders with Distribution Order Print and pick items by generating a picklist with Distribution Order Picklist Print. (Picking can also be done in Distribution Orders).
9. Ship orders with Distribution Orders> Ship Allocated action. You can create shippers for a DO when a valid shipping group is associated with the ship-from and ship-to sites.
10. At the demand site, use Distribution Orders > Receive Order action to record the receipt of distribution order shipments.
11. Delete and archive intersite requests at the demand site using Intersite Request Delete and Archive.
12. Delete and archive intersite requests at the supply site using Closed Intersite Demand Delete & Archive.

Managing Database Connections

When DRP is run or MRP and DRP are run in combination, the demand and supply sites may be associated with domains in separate databases connected over a network. In this case, item demand generated by DRP at the demand site is immediately communicated to the supply sites over the network.

When the connection between the supply and demand databases is temporarily unavailable, run Intersite Demand Validation at the supply site as soon as it returns. Intersite Demand Validation searches for all changes to intersite demand that occurred in the demand database while the connection was down. It then replaces existing demand records in the supply database with the changed records from the demand database.

Intersite Demand Validation does not consider new demand--only existing demand records in the supply database. To transfer new demand records that were generated while the connection to the supply site was unavailable, the demand site must do one of the following:

- Use Intersite Demand Transfer to transfer system-generated intersite requests to the supply site's database.
- Use Intersite Demand Export to place the demand records in an ASCII file to send to the supply site. This file can be imported into the supply site's database using Intersite Demand Import.

  Note Intersite Demand Transfer, Intersite Demand Export, and Intersite Demand Import transfer information from the demand database to the supply database only. For the supply database to confirm or enter distribution orders for the demand database, it must remain connected to the demand database.

Main Panel

Ship-From

The site from which the items will be shipped, also referred to as the supplying site.

All intersite requests specify a ship-to sitereceiving and at least one ship-from site. A request can be filled by more than one site. The quantity requested from this site represents an MRP demand on the ship-from site and a source of supply at the ship-to site.

Most reports can be selected and sorted by ship-from (supplying) site.

Normally intersite requests are created by running DRP at the ship-to site, but they can be maintained manually.

Requisition

Enter the ID of a new or existing intersite request to be confirmed. If Auto Requisitions is enabled Yes in Distribution Management Control, you can leave this field blank for a system-assigned number.

Confirming an intersite request sets the request status to E (exploded) and communicates the confirmed quantity back to the ship-to site. This confirmed quantity is the quantity MRP uses for planning at the ship-to and ship-from sites.

Ship-To

The site which has a requirement for the specified items.

This is the site where the items are to be shipped. When accessing transportation information, this is referred to as the ship-to or receiving site.

All intersite requests specify a ship-to and at least one ship-from site. A request can be filled by more than one site.

Most DRP reports and inquires can be selected and sorted by ship-to site.

Normally intersite requests are created by running DRP at the ship-to site, but they can be maintained manually.

Due Date

Enter the due date when the items on this request are due to be received at the specified site. When you modify an intersite request, due date defaults from the request record. For a new intersite request, due date defaults to the system date.

Due date is used by planning at the ship-to site, ensuring that the right materials are available when needed to satisfy manufacturing

and sales demands. If due dates are scheduled too late or too early, rescheduling messages are printed.

Due date is also used for planning at the ship-from site. The system calculates the default ship date on an intersite request based on:

- The due date from the request header
- The load, transit, and unload lead times defined in Transportation Networks for the transportation mode specified on the detail portion of the request

To calculate a default ship date, the system:

1. Subtracts the unload lead time from the request due date to determine when items should arrive at the demand site.
2. Adjusts the calculated arrival date to fall on a receive day defined in Transportation Networks. This date displays as the due date on the detail portion of the request.
3. Subtracts the transit lead time from the arrival date to determine when items should depart from the supply site. All calendar days, including holidays and nonworking days, are considered in this calculation.
4. Adjusts the calculated departure date to fall on a ship day defined in Shipping Schedule. Ship days in Shipping Schedule default from those defined in Transportation Networks.
5. Subtracts the load lead time from the departure date to determine when loading should begin at the supply site. This date displays as the ship date on the request detail.

   Note If values defined in Transportation Networks do not apply to the transportation mode specified on the intersite request, the lead time from Source Networks is used to calculate a default ship date.

Calculations performed at steps 1, 2, 4, and 5 consider only dates indicated as working days in Customer Calendars and Holidays. For example, an item has a Tuesday due date, an in-transit lead time of two days, and a load lead time of one day. If Saturday and Sunday are defined as nonworking days or holidays, the item ship date on the intersite request defaults to Thursday rather than Friday.

Material Requirements Planning (MRP) considers ship dates when calculating demand at DRP supply sites.

Transport ID

Enter the ID of the transportation method used for shipping items to the ship-to site. This field is required. Set up Transport IDs in Transportation Modes.

When you reference an existing intersite request, Transport ID defaults from the request. When you create a new intersite request, there is no default; you must specify an ID.

Note When an intersite request is created in the ship-to site, Transport ID defaults from the source network record for the ship-from and ship-to site, defined in Source Networks. Since these records may not exist in the ship-from site, a system default is not provided for requests created at the ship-from site.

The ship-from site can select and group intersite requests for shipment based on the transportation method specified. After items are shipped, in-transit inventory can be reviewed by transport ID.

At the ship-from site, distribution orders reference a transportation ID. When the distribution order is shipped, the quantity shipped is temporarily recorded in a goods-in-transit inventory location at the in-transit site specified on the order. The location code is set automatically to the transportation ID. When items are received at the other site, this location is relieved.

If Automatic Locations is disabled at the in-transit site, you must ensure that each transportation ID is defined in Locations. Normally in-transit inventory is non-nettable and not available.

Quantity Ordered

If you specify an existing intersite request, quantity ordered defaults from the request and cannot be modified. When you create a new intersite request to be filled by this order, quantity ordered defaults to 0 (zero) and can be changed as needed. The quantity you specify in this field defaults to the Quantity Confirmed field.

When an intersite request is created by DRP, the quantity ordered from each ship-to site is calculated as the total requirement quantity multiplied by the supply percentage specified in the source network.

The quantity confirmed and the quantity shipped can differ from the quantity ordered. The system maintains a record of all three quantities, which appear on most DO reports.

Quantity Confirmed

Specify the quantity that you have agreed to ship to the ship-to site on the specified date.

The quantity confirmed on an intersite request can differ from the quantity ordered. When the quantity confirmed is less than the quantity ordered, DRP at the ship-to site sees the shortage and takes action.

When the quantity confirmed is greater, DRP displays an action message and the projected quantity on hand reflects the surplus.

The system maintains a record of the original quantity ordered, the quantity confirmed, and the quantity shipped. All three quantities appear on most reports.

Note Normally, intersite requests are confirmed for only a short period of time, usually the same as the item's time fence.

Quantity Shipped

The system displays the quantity shipped against this intersite request.

This quantity is updated by the system when items are issued in Distribution Orders > Ship Allocated. The system maintains a record of the original quantity ordered, the quantity confirmed, and the quantity shipped. All three quantities appear on most reports.

The sum of quantity shipped, quantity picked, and quantity allocated cannot be greater than quantity confirmed.

Quantity Allocated

Specify the item quantity to be allocated. Specifying a quantity in this field creates general allocations. To create detail allocations, select the Detail Allocations checkbox in the Allocations panel.

The sum of quantity shipped, quantity picked, and quantity allocated cannot be greater than quantity confirmed. You can apply field security to this field to restrict access.

You can print picklists based on the quantity allocated.

Quantity Picked

Displays the the total quantity to be picked for this order.

Allocations Panel

Detail Allocations

This checkbox determines whether you can make general or detail allocations for this item.

Not selected: The grid for Allocations does not display. You can create general allocations by specifying a value in the Quantity Allocated field.

Selected: If there is an unallocated confirmed quantity for this intersite request, the system automatically detail allocates from the available and unallocated quantity on hand. A grid displays where you can enter

specific locations, lot/serial numbers, and lot references. You can assign both a quantity allocated and a quantity picked.

This field is unselected by default, unless detail allocation records already exist. In this case, the checkbox is selected by default.

If you do not create detail allocations, the system automatically generates them when you print a picklist.

Allocations reserve inventory so it is not available for other orders in the system. Allocations also control shipment quantities when there are not enough items to fill all orders. You can choose to ship the quantity allocated or the quantity picked.

Location

Enter the location.

Lot/Serial

Enter the lot/serial.

Reference

Enter the reference number.

Quanttity to Allocate

Enter the total quantity to be allocated for this order from this site, location, lot/serial, and lot reference.

Quantity Picked

Enter the total quantity to be picked for this order from this site, location, lot/serial, and lot reference.

Using the Intersite Demand > Confirm Demand Action

To use the Confirm Demand action, perform the following steps:

1. Go to **Intersite Demand**. Select an existing record.
2. From the toolbar, select Actions > Confirm Demand. The **Confirm Demand** window appears.
3. Enter the relevant information.
4. Click Submit. A message appears confirming that the action is successful.

Transportation Networks

You can use **Transportation Networks** to define which methods are used to move products between a shipping and receiving site. You have the option to enter a transport ID, a shipping site, a receiving site, and effective dates. The transport ID provides default values for lead times and available units

Data associated with a transportation network include:

- The source and receiving site
- A transportation mode, defined in Transportation Modes
- Loading, transit, and unloading lead times
- An effective date range, which lets you phase in changes to transportation modes, shipping or receiving schedules, or lead times as needed

Transportation Networks View

Summary Panel

The summary panel displays the key data of the transportation network you are creating, including the transport ID, ship-to, and ship-from fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Transport ID

This is a mandatory field. The Transport ID identifies a method of transport that you can use to ship items between sites-truck, rail, pipeline. Each transportation mode is defined along with standard load and unload times to use for scheduling, freight rates to use for cost of freight analysis, and load capacity to use for transportation load reports.You can establish individual shipping schedules and lead times from one site to another for each mode of transport.

You can select most reports by transport ID, along with the supplying and receiving sites.

Ship-From

This is a mandatory field. Indicates the supplying site for shipments using this transportation mode.

Ship-To

This is a mandatory field. Indicates the site that will be receiving the items.

Start Date

Optionally, enter the starting date. Indicates the first day when this transportation information is to take effect. Starting and ending effective dates are inclusive and may not overlap.

Transportation availability and schedules are effective over a period of time. Effective dates are used to phase in changes, and to maintain history on-line.

DRP calculations always use the transportation information in effect on that date. Transportation reports may be selected by effective date.

With effective dates you can easily change shipping and receiving schedules, or switch to different modes of transportation.

When adding a new relationship, simply enter the starting effective date. When replacing or changing an existing relationship, add the new one with a start date and modify the old one to record the ending effective date.

End Date

Optionally, enter the end date. Indicates the last day when the transportation information is effective. Starting and ending effective dates are inclusive and may not overlap.

Transportation availability and schedules are effective over a period of time. Effective dates are used to phase in changes, and to maintain history on-line.

DRP calculations always use the transportation information in effect on that date. Transportation reports may be selected by effective date. With effective dates you can easily change shipping and receiving schedules, or switch to different modes of transportation.When adding a new relationship, simply enter the starting effective date. When replacing or changing an existing relationship, add the new one with a start date and modify the old one to record the ending effective date.

Lead Time Panel

Load Lead Time

Enter the number of working days required to load items onto the specified transportation mode at the source site for delivery to the receiving site. The initial default is from Transportation Modes.

In general, load and unload times are the same for a particular transportation mode regardless of the source and receiving sites. This may vary, for example, lead times may differ for the same transportation mode depending on the loading and unloading sequences used at each site.

The system uses the load, transit, and unload lead times defined for the applicable transportation network, in coordination with the shipping

and receiving days, to calculate default ship and due dates on the demand portion of intersite requests.

When calculating in-transit time for an intersite request, the system considers all calendar days, even those indicated as holidays or non-working days. When calculating load and unload lead times, only working days are considered.

Transit Lead Time

Enter the number of calendar days required to transport items from the source site to the receiving site using the specified transportation mode.

The system uses the load, transit, and unload lead times defined for the applicable transportation network, in coordination with the shipping and receiving days, to calculate default ship and due dates on the demand portion of intersite requests.

When calculating in-transit time for an intersite request, the system considers all calendar days, even those indicated as holidays or non-working days. When calculating load and unload lead times, only working days are considered.

Unload Lead Time

Enter the number of working days required to unload items delivered from the source site to the receiving site using the specified transportation mode. The initial default is from Transportation Modes.

In general, load and unload times are the same for a particular transportation mode regardless of the source and receiving sites. This may vary, for example, lead times may differ for the same transportation mode depending on the loading and unloading sequences used at each site.

The system uses the load, transit, and unload lead times defined for the applicable transportation network, in coordination with the shipping and receiving days, to calculate default ship and due dates on the demand portion of intersite requests.

When calculating in-transit time for an intersite request, the system considers all calendar days, even those indicated as holidays or non-working days. When calculating load and unload lead times, only working days are considered.

Available Units

Indicates the number of units of this transportation that are available. For example, you may have 5 rail cars or 25 trucks. Any or all of these may be scheduled for deliveries from the specified supplying site to this receiving site.

This number appears on transportation load reports and is used for determining available capacity.

Update MRP Flags

This field controls whether the system flags recalculation of DRP items at the receiving site of this transportation network. The transportation network is linked to items through the source network code that specifies this Transport ID.

Select the checkbox if you add or change information in this screen. If you select the checkbox, the system searches for DRP items at the receiving site and updates the MRP Required field to Yes for those items.

To reduce processing time, unselect the checkbox, as updating MRP Required fields at the receiving sites can take several minutes.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the transportation network.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the transportation network.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Transportation Networks

1. Go to **Transportation Networks**.
2. Click the **New** button to add a new record.
3. Complete the fields in the Transportation Networks on page 4001 view.
4. Click **Save** to continue.

Modifying Transportation Networks

1. Go to **Transportation Networks**.
2. Select a row and click **Edit**, or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Transportation Networks

1. Go to **Transportation Networks**.
2. Select a row and double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message. Click **Delete**.

Source Networks

Companies sometimes acquire materials or components from another division or site within the same company. These are called Distribution Requirements Planning (DRP) items, and they are set up as Purchase/Manufacture = “D”, and planned using DRP. You must assign every DRP item to only one Source Network.

Source Networks group items for planning purposes: DRP plans intersite requests in exactly the same way for all items assigned to the same Source Network. Intersite requests are sent to the same supply site(s), calculated using the same supply percentage, and request the same transportation mode (or specify the same lead time).

Source Networks streamline DRP planning by grouping items with identical intersite request parameters:

- Supply Site(s)
- Supply Percentage Calculation
- Transportation Mode (or Lead Time)

This ensures consistency in how DRP handles requests for these items.

Define Source Networks in Network Codes and the planning details in Source Networks. For each Receiving Site / Supply Site combination, you define a Supply Percent and Transportation Code (or Lead Time). You can group multiple site-to-site relationships under the same Source Network. All DRP calculations look up the Source Network assigned to the item in Site Planning Exceptions, then use the network details to generate intersite requests.

DRP always looks for the Source Network that is effective on the date being planned, so use Start and End dates to make changes--for a new mode of transportation between two sites starting on July 15, any intersite requests up through July 14 will plan to use the old mode of transport and any on or after July 15 will use the new.

Source Networks View

Summary Panel

The summary panel displays the key data of the source network you are working on, including network code, ship-to and ship-from fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel allows you to specify and manage the basic information of a source network. The panel contains the following fields:

Network Code

This is a mandatory field. Indicates a code used to identify a set of sourcing relationships.The Network Code is defined in Network Codes.

Ship-To

This is a mandatory field. Indicates the site where the items are received. When DRP is run at this site, it generates requirements on the supplying site.

Each sourcing relationship is assigned to a network code and specifies both a supplying site and a receiving site, along with the supply percentage and the method of transportation between the two. Multiple site to site relationships may be grouped under the same network code, with one planner assigned to the entire network.

Ship-From

This is a mandatory field. Indicates the site from which the items are to be shipped. When DRP is run at the receiving site, requirements are generated at this site.

Each sourcing relationship is assigned to a network code and specifies both a supplying site and a receiving site, along with the supply percentage and the method of transportation between the two. Multiple site to site relationships may be grouped under the same network code, with one planner assigned to the entire network.

Start Date

Optionally, enter the starting date. Indicates the first day when this source network relationship is to take effect. Starting and ending effective dates are inclusive and may not overlap.

Source networks relationships are effective over a period of time. Effective dates are used to phase in changes to the network, and to maintain history on-line.

DRP calculations always use the source network information in effect on that date. Source network reports may be selected by effective date.

When adding a new relationship, simply enter the starting effective date. When replacing or changing an existing relationship, add the new one with a start date and modify the old one to record the ending effective date.

End Date

Optionally, enter the end date. Indicates the last day when this source network relationship is effective. Starting and ending effective dates are inclusive and may not overlap.

Source network relationships are effective over a period of time. Effective dates are used to phase in changes to the network and to maintain history on-line.

DRP calculations always use the source network information in effect on that date. Source network reports may be selected by effective date.

When adding a new relationship, simply enter the starting effective date. When replacing or changing an existing relationship, add the new one with a start date and modify the old one to record the ending effective date.

Supply Percent

Indicates the percentage of the demand at the receiving site that is supplied by this supply site. The default is 100%.

Each receiving site may be supplied by more than one supply site. For example, site 1000 may get 75% of its requirement for an item from site 2000 and the other 25% from site 3000. A requirement for 500 units at site 1000 creates two intersite demands: one for 375 units from site 2000 and one for 125 units from site 3000.

In the above example, both of these sourcing relationships, 2000 to 1000 and 3000 to 1000, must be stored under the same network code since only one network code is assigned to an item for use by DRP. If other items use the same sourcing but with different supply percentages, additional network codes are required.

It is possible to oversupply a site, if the percentages do not sum to 100%.

Transportation Code

Indicates the normal mode of transportation used between these two sites.

When a transportation code is entered, DRP ship date calculations use the lead time information and shipping schedules defined for this transportation code.

Each transportation code may have a different load and unload time, and a different transport time between these two sites. Specific

shipping schedules may also be entered. For example, shipments from site 2000 to site 1000 go out on Monday and Wednesday.

If a transportation code is not entered, DRP calculations use the average transport lead time entered on the source network.

A transportation code is not required, but can be specified when items require a specific transportation type, for example, a pipeline or refrigerated container. When specified on the source network, intersite requests automatically specify this transportation method.

This can increase DRP processing time, so use cautiously.

Lead Time

Indicates the number of calendar days that normally takes to ship items from the supply site to the receiving site. This includes any loading and unloading time.

This lead time is only used if the transport code is blank. When DRP calculates requirements, the suggested ship date is calculated by subtracting this lead time from the due date at the receiving site.

Freight Detail Panel

Freight List

Optionally enter a freight list. Freight lists identify a set of charges that can be applied to sales quotes and orders.

Freight Minimum Weight

Optionally enter the minimum weight to use with bulk freight lists for this customer. Shipments that weigh less than this amount are charged based on minimum weight, not the actual shipment weight.

Freight Terms

Optionally enter freight terms, which control how freight charges are treated by the system.

Creating Source Networks

1. Go to **Source Networks**.
2. Click the **New** button to add a new record.
3. Complete the fields described in the Source Networks on page 4006 view.
4. Click **Save** to continue.

Modifying Source Networks

1. Go to **Source Networks**.
2. Select the source network you want to modify and click **Edit**. Alternatively, double-click the source network.
3. Edit the applicable information.
4. Click **Save**.

Deleting Source Networks

1. Go to **Source Networks**.
2. Double-click the network code you want to delete. Click the **Delete** button.
3. A message appears prompting you to confirm the deletion. Click **Delete**.

Network Codes

Materials and components a company uses are sometimes acquired from another division or site of the same company. These are referred to as Distribution Requirements Planning (DRP) items. They are set up as (Purchase/Manufacture=D) and planned using DRP. You must assign every DRP item to one, and only one, Source Network.

Source Network codes group items for planning purposes. DRP plans intersite requests in exactly the same way for all items assigned to the same source network. Intersite requests are sent to the same supply sites, calculated using the same supply percentage, and request the same transportation mode (or specify the same lead time).

Define Source Network codes in **Network Codes** and the planning details in **Source Networks**. For each Receiving Site/Supply Site combination, you define a Supply Percent and Transportation Code (or Lead Time). You can group multiple site-to-site relationships under the same Source Network. All DRP calculations look up the Source Network assigned to the item in the Item or Item Site Planning Exceptions, then use the network details to generate intersite requests.

You need to establish different Source Network codes to describe relationships between Receiving Site - Supply Site pairs when:

- Different planners, maybe for different product lines, are responsible for planning the movement of materials between the same two sites.
- Products move both ways between sites. Relationships cannot be cyclic, so define one Source Network code for each direction.
- Different modes of transportation are scheduled between two sites, some products can move by air, others by ship. Since the lead time is different, plan these separately.
- Different items are sourced with different supply percentages. For example, some items can come 100% from supply site A and others 25% from site A and 75% from site B.

One planner can have responsibility for one or more Source Network codes.

Main Panel

Network Code

A code used to identify a set of sourcing relationships. This is a mandatory field. This is a mandatory field. Each sourcing relationship is assigned to a network code and specifies both a supplying site and a receiving site, along with the supply percentage and the method of transportation between the two. Multiple site-to-site relationships may

be grouped under the same network code, with one planner assigned to the entire network.

Each DRP item (Purchase/Manufacture = D) is assigned a network code. This identifies the normal sourcing for this item - the supplying sites and transportation method.

All planning and reporting is done by network code.

Source networks are independent of items, allowing multiple items to be assigned the same source networks.

Identify all of your sourcing relationships prior to setting up network codes. Most DRP implementations will have more than one network code, each defining a group of network relationships.

For example, a company has four sites: 1000, 2000, 3000, and 4000. Sites 1000 and 2000 are supplied by site 3000. This could be defined as network code SS001. All of the items supplied by site 3000 reference network code SS001.

Other items at sites 1000 and 2000 are supplied from site 4000. This relationship could be defined using another network code SS002. All of the items supplied by site 4000 would reference source network code SS002.

Since these relationships are directional, if items flowed in the reverse order, from 1000 to 4000, another network code is required. Furthermore, a different source network code may be needed for each method of transportation between these sites or if sourcing is split between multiple sites. For example, 70% supplied from one site and 30% from another.

Description

Enter a short description of the source network. Description prints on most reports, as space permits.

Planner

The planner responsible for managing this network. This field is validated against codes defined in **Generalized Codes**, if applicable. DRP reports may be selected and sorted by planner.

Creating a Network Code

1. Go to **Network Codes**.
2. From the toolbar, click the New button.
3. Complete the fields described above.
4. Click Save.

Modifying a Network Code

1. Go to **Network Codes**.

2. Select the network code you want to modify and click Edit. Alternatively, double-click the network code.
3. Edit the relevant information.
4. Click Save.

Deleting a Network Code

1. Go to **Network Codes**.
2. Double-click the network code you want to delete.
3. From the toolbar, click the Delete button.
4. A message appears prompting you to confirm the deletion. Click Delete.

Inventory In Transit

Prior to being received, quantities shipped against distribution orders reside at an in-transit site and location. The in-transit site is defined in the line item detail for each distribution order. The in-transit location ID is the same as the transportation ID for the order line.

You cannot update in-transit sites or locations in the Receive Order action in **Distribution Orders**. In the **Inventory in Transit** browse, set the search criteria, and click Search. The system then displays the details of all the inventories matching your criteria.

Item

Displays the item that is in transit.

Description

Displays the item description.

Unit of Measure

Displays the item unit of measure.

GIT Site

Displays the site that owns the goods in transit.

When items on a distribution order are shipped from one site to another, they are transferred temporarily to a goods-in-transit site and location. The goods-in-transit location corresponds to the transportation code on the distribution order.

Receiving items at the receiving site transfers inventory from the goods-in-transit site and location to the receiving site and location.

The goods-in-transit site is typically the receiving site, but you can change this on individual intersite requests and distribution orders.

Transport

Displays the transportation method used for shipping items to the receiving site.

The shipping site can select and group intersite requests for shipment based on the transportation method. After the items are shipped, you can view the in-transit inventory by transport ID.

This field is not required, but it is normally specified when items require a specific transportation type such as pipeline or refrigerated container.

At the shipping site, distribution orders can reference a transportation code. When the distribution order is shipped, the quantity shipped is temporarily recorded in a goods-in-transit inventory location at the in-transit site specified on the order. The location code is set automatically

to the transportation code. When items are received at the other site, this location is relieved.

If you do not use automatic locations, ensure that each of your transportation codes is set up in **Locations**. Usually, in-transit inventory is non-nettable and not available.

Lot/Serial

Displays the lot or serial number of the inventory that is in transit.

Reference

Displays the reference of the inventory that is in transit.

Quantity in Transit

Displays the quantity of the inventory that is in transit. This quantity is updated by the system whenever a distribution order receipt is processed.

The system maintains a record of the quantity shipped from the supplying site and the quantity received at the receiving site—the difference is considered goods in transit. Most reports show all three.

Available

Indicates if the inventory in transit is available.

Nettable

Indicates if the inventory in transit is nettable.

For multisite implementations, any in-transit locations must be set up with Nettable set to No. Otherwise, MRP uses the supply in that location twice—from the scheduled receipt, and the nettable quantity in the location.

Set up inspection locations as nettable because you do not want MRP to plan to order more when you already have inventory on hand. You control inspection locations by restricting issue transactions.

Warehousing

Warehousing provides clear definitions for various manufacturing and distribution environments by:

- Enabling seamless implementation by remaining non-invasive toward existing schema.
- Providing a scalable solution that can handle the complexities of several multi-site warehouses down to the simplicity of a single-site warehouse.
- Improving Automation Solutions to meet the customers' requirements in complex warehousing and material handling processes by providing a deeper system organization of a physical warehouse.
- Improving space and labor utilization.
- Minimizing the total travel distance in the warehouse while performing inventory movements.
- Enabling users to record large- and small-scale activity.
- Minimizing administration intervention

Warehouses

A warehouse consists of a group of storage locations such as a building or a number of separate buildings. A warehouse can be part of a larger building, or, for storage of material such as construction materials, the storage locations can be in the open air. To define it as a warehouse, you must specify the storage locations that you want to group, and set up a range of fields that control the inventory management processes.

Warehouses View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the selected warehouse, including Warehouse, Default Priority, Active, and Task Type. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information about a warehouse.

Warehouse

Enter a unique ID to identify this warehouse. This field is mandatory and can include any type of character, for example *W-QAD-3*.

Description

This field is optional. You can add a brief description of the warehouse.

Default Priority

Enter the default priority value assigned to the tasks in the warehouse. This is a mandatory field of numerical input greater than 0 (zero).

Address

This is an optional field. You can search for the desired address on the Address Master lookup.

Active (check box)

This check box indicates the status of the warehouse. The check box is selected by default.

Task Type

Search for and select the task type in the Warehousing Task Types lookup. This is a mandatory field.

Sites Panel

The Sites panel grid allows you to add, view, or delete sites.

Adding new Sites

Click **New** to add a new row to the grid and select the site from the Site lookup.

Modifying Sites

The Sites are displayed in this grid as read-only rows and cannot be modified.

Deleting Sites

Select the desired Site and click the **Delete** option above the grid.

Note If the site has an existing area structure, the system notifies you that the selected site cannot be deleted.

Creating a Warehouse

1. Go to **Warehouses**.
2. Click New to open the view.
3. Complete the fields described in **Warehouses View**.
4. Click Save to create the new record.

Modifying a Warehouse

1. Go to **Warehouses**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouses view.**
4. Click Save to update the record.

Deleting a Warehouse

1. Go to **Warehouses**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse Algorithms

Additionally, you can use **Warehouse Algorithms** to modify descriptions of individual algorithms within each of the algorithm type categories.

When putting stock away in functional and non-functional areas, the system uses different routines. These routines are called algorithms. Each algorithm is a separate program that takes into account particular conditions before attempting to carry out an inventory movement transaction. In other words, it is a rule that helps to identify locations or inventory that are subject of transfer, picking, or putaway tasks. At a high level, warehousing algorithms are used for either putting inventory away in locations or finding locations to take in.

The Warehouse Algorithms types are applied by the Warehouse engine to define the rules and sequences of instructions to identify locations or inventory that is subject of transfer, picking or putaway tasks. The algorithm types include the following options:

- Location Find (LF) algorithms are used in functional warehouse areas to find a location for the inventory without considering capacity.
- Putaway (PA) algorithms are used in non-functional warehouse areas to find locations in storage areas by considering the size and available space.
- Picking (PK) algorithms are used when picking stock to fill sales orders or work orders.
- Inspection (QA) algorithms are used to determine when inspection of items is required, as well as the frequency.

The system lets you choose which algorithm to use in any given situation. At the simplest level, you can just assign a particular algorithm to a specific transaction type.

Moreover, for each algorithm type, the system provides the standard algorithms to optimize the Warehouse Engine. Use the standard algorithms provided by the system, shown in the following table.

Algorithm Type	Algorithm
Location Find (LF)	101 - Find first functional location in first Storage Zone 102 - Find first empty functional location 201 - Merge with same Shipper/ Picklist 202 - Merge with same Order 203 - Merge with same Shipping Address 204 - Merge with same Carrier

Algorithm Type	Algorithm
	205 - Merge with same Ship Via
Putaway (PA)	101 - Find first storage location 102 - Find first empty storage location 103 - Find first location with same Item 104 - Find first location same Item/ same Lot 111 - Find first dedicated storage location 112 - Find first dedicated empty storage location 113 - Find first dedicated location with same Item 114 - Find first dedicated location with same Item/lot
Picking (PK)	101 - Pick by Date 102 - Pick by Expire Date 103 - Pick by Lot/Serial 104 - Pick by Location 121 - Pick by Commission Date 122 - Pick by Commission Date Pick Full Packs only 123 - Pick by Commission Date Allow LTF Packs No other picks/ tasks 201 - Pick by SZ Pick Level by Date 202 - Pick by SZ Pick Level by Expire Date 203 - Pick by SZ Pick Level by Lot/ Serial 204 - Pick by SZ Pick Level by Location 221 - Pick by SZ Pick Level by Commission Date 222 - Pick by SZ Pick Level Commission Date Pick Full Packs only

Algorithm Type	Algorithm
	223 - Pick by SZ Pick Level Comm Date Allow LTF Picks Single Task Only
Inspection (QA)	101 - Always Inspect when inspection Required 102 - Inspect when inspection Required only every X days 103 - Inspect when inspection Required only every X receipts

Warehouse Algorithms View

Summary Panel

The Summary panel is located between the menu and the navigation bar. It displays the key data of the current storage zone, including the Type and Algorithm / Description. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of an algorithm. The panel contains the following fields:

Type

Select the algorithm type from the drop-down menu. This is a mandatory field.

Algorithm

Enter the standard algorithm ID to assign to the selected algorithm type. This is a mandatory field and the system allows up to three digits to be entered.

Creating a Warehouse Algorithm

1. Go to **Warehouse Algorithms**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Algorithms View**.
4. Click Save to create the new record.

Modifying a Warehouse Algorithm

1. Go to **Warehouse Algorithms**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Algorithms view.**
4. Click Save to update the record.

Deleting a Warehouse Algorithm

Note If a Warehouse Algorithms is used in a Warehouse Algorithm Attachment, when attempting to delete, the system notifies you that the Warehouse Algorithm is assigned and deleting is not allowed.

1. Go to **Warehouse Algorithms**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Support for Custom Algorithms

You can create your own custom algorithms using Service Based Inheritance (SBI). SBI allows you to insert custom code before and after the original service code without modifying the standard module.

How to Implement Customizations

1. Create a New Module: Create a separate, new module to house your customizations. (The cleanest approach is to create a new module for each functional group of customizations.)
2. Define Classes: In your new module, write new classes that implement the interface you want to customize and inherit the interface's base class.
3. Override Methods: You only need to override the specific methods you wish to customize.
4. Call the Parent Class: When overriding a method, ensure you call the method in the parent's base class. This base class is automatically generated for every interface and manages the execution flow, including calling any previous customizations and the standard code.

The system uses the service locator to find and execute all implemented services for the interface you are customizing. For example, `super:create(dsItem)`.

After writing your custom code, you only need to add the service to the `module-config.xml` file in your custom module. Then, you're ready to deploy your customization.

Pseudocode Examples:

- PutawayFunctions.cls

```
method private void ProcessAllZoneAndAlgorithms(buffer ttPutawayRequest for
 ttPutawayRequest,

                                                 buffer ttPutawayRequestDetail for
ttPutawayRequestDetail,

                                                 input toWarehouseCode as character,

                                                 input toAreaCode as character,
```

```
                                input storageZoneListCode as character,
                                input transactionType as character,
                                input toSiteCode as character,
                                input itemCode as character,
                                input lotSerial as character,
                                input reference as character,
                                input packCode as character,
                                input itemUM as character,
                                input isSingleItem as logical,
                                input isSingleLot as logical,
                                input warehouseItemType as character,
                                input addressCode as character,
                                input currentDetailID as integer,
                                input pickingRequestHeaderID as integer,
                                input pickingRequestDetailID as integer,
                                input-output newRequestDetailID as integer,
                                input-output lastRecordIDAlgorithm as integer,
                                input-output dataset dsPutawayRequest,
                                input-output dataset
dsCacheAlgorithmSearchCondition,
                                input-output dataset
dsCacheAlgorithmAssignment,
                                input-output dataset dsWhseLocation,
                                input-output dataset dsWhseLocDet,
                                input-output dataset dsWhseLocItemDet,
```

```
                                    input-output dataset dsOpenWhseJob,

                                    input-output dataset dsOpenWhseJobDetail,

                                    input-output dataset dsOpenWhseTask,

                                    input-output dataset dsPickingRequest):


.....


    /* Start processing all zones and algorithms */

    ttWhseStgZoneListDet-loop:

    for each ttWhseStgZoneListDet where ttWhseStgZoneListDet.DomainCode
   = ttPutawayRequest.DomainCode

                        and ttWhseStgZoneListDet.WarehouseCode    =
toWarehouseCode

                        and ttWhseStgZoneListDet.StorageZoneListCode =
storageZoneListCode :



.....



        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode = 101 /* Find any
location in the storage zone */

        then do:

          this-object:GetAnyLocation(input ttPutawayRequest.DomainCode,

        end.
```

```
        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode = 102 /* Find first empty
Functional location */

        then do:

          this-object:GetAnyEmptyLocationForLF(input
ttPutawayRequest.DomainCode,

        end.



        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode = 201 /* Merge With
same Shipper/Pre-Shipper */

        then do:

        end.



        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode = 202 /* Merge With
same Order */

        then do:

        end.



        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode = 203 /* Merge With
same Shipping Address */

        then do:

        end.
```

```
        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode = 204 /* Merge With
same Carrier */

        then do:

        end.




        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_PUTAWAY and

          ttCacheAlgorithmAssignment.AlgorithmCode = 101 /* Find first
storage location */

        then do:

        end.



        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_PUTAWAY and

          ttCacheAlgorithmAssignment.AlgorithmCode = 102 /* Find first empty
storage location */

        then do:

        end.



        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_PUTAWAY and

          ttCacheAlgorithmAssignment.AlgorithmCode = 103 /* Find first
location with same item */

        then do:
```

```
        end.


        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_PUTAWAY and

          ttCacheAlgorithmAssignment.AlgorithmCode = 104 /* Find first
location same item / same lot */

        then do:

        end.




        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_LOC_FIND and

          ttCacheAlgorithmAssignment.AlgorithmCode > 500 /* Custom
Algorithms */

        then do:

          this-
object:CustomAlgorithmService:RunCustomAlgorithmsforLF(input
ttPutawayRequest.DomainCode,

                                    input toSiteCode,

                                    input toWarehouseCode,

                                    input ttWhseStgZoneListDet.StorageZone,

                                    input ttWhseStgZoneListDet.AreaCode,

                                    input itemCode,

                                    input lotSerial,

                                    input reference,

                                    input packCode,

                                    input itemUM,
```

```
                                    input isSingleItem,
                                    input isSingleLot,
                                    input algorithmType,
                                    input
ttCacheAlgorithmAssignment.AlgorithmCode,
                                    buffer ttWhseStgZoneListDet,
                                    buffer bttPutawayRequestDetail,
                                    input-output dataset dsPutawayRequest by-
reference,
                                    input-output dataset dsWhseLocation by-
reference,
                                    input-output dataset dsWhseLocItemDet by-
reference,
                                    input-output dataset dsOpenWhseJob by-
reference,
                                    input-output dataset dsOpenWhseJobDetail by-
reference,
                                    input-output dataset dsOpenWhseTask by-
reference,
                                    input-output dataset dsPickingRequest by-
reference,
                                    output isNextAlgorithm,
                                    input-output newRequestDetailID).

        if not isNextAlgorithm then
          leave ttWhseStgZoneListDet-loop.

      end.
```

```
        if algorithmType =
InventoryConstants:WHSE_ALGO_TYPE_PUTAWAY and

          ttCacheAlgorithmAssignment.AlgorithmCode > 500 /* Custom
Algorithms */

        then do:

          this-
object:CustomAlgorithmService:RunCustomAlgorithmsforPA(input
ttPutawayRequest.DomainCode,

                                    input toSiteCode,

                                    input toWarehouseCode,

                                    input ttWhseStgZoneListDet.StorageZone,

                                    input ttWhseStgZoneListDet.AreaCode,

                                    input itemCode,

                                    input lotSerial,

                                    input reference,

                                    input packCode,

                                    input itemUM,

                                    input isSingleItem,

                                    input isSingleLot,

                                    input algorithmType,

                                    input
ttCacheAlgorithmAssignment.AlgorithmCode,

                                    buffer ttWhseStgZoneListDet,

                                    buffer bttPutawayRequestDetail,

                                    input-output dataset dsPutawayRequest by-
reference,
```

```
                                input-output dataset dsWhseLocation by-
reference,
                                input-output dataset dsWhseLocItemDet by-
reference,
                                input-output dataset dsOpenWhseJob by-
reference,
                                input-output dataset dsOpenWhseJobDetail by-
reference,
                                input-output dataset dsOpenWhseTask by-
reference,
                                input-output dataset dsPickingRequest by-
reference,
                                output isNextAlgorithm,
                                input-output newRequestDetailID).
            if not isNextAlgorithm then
              leave ttWhseStgZoneListDet-loop.

          end.
        end.
      end.

  end method.
```

CustomAlgorithmsBS.cls

```
using com.qad.inventory.warehousing.PutawayFunctions.
```

```
  define protected property PutawayFunctions as PutawayFunctions  no-undo
    get:
      if not valid-object(PutawayFunctions) then
        PutawayFunctions = new PutawayFunctions().
      return PutawayFunctions.
    end get.
    set.


method private void RunCustomAlgorithmsforLF(input domainCode as
 character,
                                    input toSiteCode as character,
                                    input toWarehouseCode as character,
                                    input toStorageZone as character,
                                    input toAreaCode as character,
                                    input itemCode as character,
                                    input lotSerial as character,
                                    input reference as character,
                                    input packCode as character,
                                    input itemUM as character,
                                    input isSingleItem as logical,
                                    input isSingleLot as logical,
                                    input algorithmType as character,
                                    input algorithmCode as integer,
                                    buffer ttWhseStgZoneListDet for
ttWhseStgZoneListDet,
```

```
                                buffer ttPutawayRequestDetail for
ttPutawayRequestDetail,

                                input-output dataset dsPutawayRequest,

                                input-output dataset dsWhseLocation,

                                input-output dataset dsWhseLocItemDet,

                                input-output dataset dsOpenWhseJob,

                                input-output dataset dsOpenWhseJobDetail,

                                input-output dataset dsOpenWhseTask,

                                input-output dataset dsPickingRequest,

                                output isNextAlgorithm as logical,

                                input-output newRequestDetailID as integer):


  end method.
```

- CustomAlgorithmsBS.cls

```
using com.qad.inventory.warehousing.PutawayFunctions.


  define protected property PutawayFunctions as PutawayFunctions  no-undo

    get:

      if not valid-object(PutawayFunctions) then

        PutawayFunctions = new PutawayFunctions().

      return PutawayFunctions.

    end get.

    set.


method private void RunCustomAlgorithmsforLF(input domainCode as
 character,
```

```
                                input toSiteCode as character,
                                input toWarehouseCode as character,
                                input toStorageZone as character,
                                input toAreaCode as character,
                                input itemCode as character,
                                input lotSerial as character,
                                input reference as character,
                                input packCode as character,
                                input itemUM as character,
                                input isSingleItem as logical,
                                input isSingleLot as logical,
                                input algorithmType as character,
                                input algorithmCode as integer,
                                buffer ttWhseStgZoneListDet for
ttWhseStgZoneListDet,
                                buffer ttPutawayRequestDetail for
ttPutawayRequestDetail,
                                input-output dataset dsPutawayRequest,
                                input-output dataset dsWhseLocation,
                                input-output dataset dsWhseLocItemDet,
                                input-output dataset dsOpenWhseJob,
                                input-output dataset dsOpenWhseJobDetail,
                                input-output dataset dsOpenWhseTask,
                                input-output dataset dsPickingRequest,
                                output isNextAlgorithm as logical,
                                input-output newRequestDetailID as integer):
```

```
    end method.
```

- CustomAlgorithmsExtension.cls

```
method public override void Create(input dataset-handle
dsBusinessRelationV2):


        this-object:ValidateAndSaveBranchAddresses(input dataset-handle
dsBusinessRelationV2 by-reference).

        super:Create(input dataset-handle dsBusinessRelationV2 by-reference).


      end method.



method private void RunCustomAlgorithmsforLF(input domainCode as
character,
                                             input toSiteCode as character,
                                             input toWarehouseCode as character,
                                             input toStorageZone as character,
                                             input toAreaCode as character,
                                             input itemCode as character,
                                             input lotSerial as character,
                                             input reference as character,
                                             input packCode as character,
                                             input itemUM as character,
                                             input isSingleItem as logical,
```

```
                                input isSingleLot as logical,
                                input algorithmType as character,
                                input algorithmCode as integer,
                                buffer ttWhseStgZoneListDet for
ttWhseStgZoneListDet,
                                buffer ttPutawayRequestDetail for
ttPutawayRequestDetail,
                                input-output dataset dsPutawayRequest,
                                input-output dataset dsWhseLocation,
                                input-output dataset dsWhseLocItemDet,
                                input-output dataset dsOpenWhseJob,
                                input-output dataset dsOpenWhseJobDetail,
                                input-output dataset dsOpenWhseTask,
                                input-output dataset dsPickingRequest,
                                output isNextAlgorithm as logical,
                                input-output newRequestDetailID as integer):

    if algorithmCode = "501"
    then do:
        this-object:RunCustomAlgorithmsLF501(input
ttPutawayRequest.DomainCode,
                                input toSiteCode,
                                input toWarehouseCode,
                                input ttWhseStgZoneListDet.StorageZone,
                                input ttWhseStgZoneListDet.AreaCode,
                                input itemCode,
```

```
                                input lotSerial,
                                input reference,
                                input packCode,
                                input itemUM,
                                input isSingleItem,
                                input isSingleLot,
                                input algorithmType,
                                input
ttCacheAlgorithmAssignment.AlgorithmCode,
                                buffer ttWhseStgZoneListDet,
                                buffer bttPutawayRequestDetail,
                                input-output dataset dsPutawayRequest by-
reference,
                                input-output dataset dsWhseLocation by-reference,
                                input-output dataset dsWhseLocItemDet by-
reference,
                                input-output dataset dsOpenWhseJob by-reference,
                                input-output dataset dsOpenWhseJobDetail by-
reference,
                                input-output dataset dsOpenWhseTask by-
reference,
                                input-output dataset dsPickingRequest by-
reference,
                                output isNextAlgorithm,
                                input-output newRequestDetailID).

    end.
```

```
end method.


method private void RunCustomAlgorithmsLF501(input domainCode as
character,
                                             input toSiteCode as character,
                                             input toWarehouseCode as character,
                                             input toStorageZone as character,
                                             input toAreaCode as character,
                                             input itemCode as character,
                                             input lotSerial as character,
                                             input reference as character,
                                             input packCode as character,
                                             input itemUM as character,
                                             input isSingleItem as logical,
                                             input isSingleLot as logical,
                                             input algorithmType as character,
                                             input algorithmCode as integer,
                                             buffer ttWhseStgZoneListDet for
ttWhseStgZoneListDet,
                                             buffer ttPutawayRequestDetail for
ttPutawayRequestDetail,
                                             input-output dataset dsPutawayRequest,
                                             input-output dataset dsWhseLocation,
```

```
                                input-output dataset dsWhseLocItemDet,
                                input-output dataset dsOpenWhseJob,
                                input-output dataset dsOpenWhseJobDetail,
                                input-output dataset dsOpenWhseTask,
                                input-output dataset dsPickingRequest,
                                output isNextAlgorithm as logical,
                                input-output newRequestDetailID as integer):

    define variable isNextLocation   as logical                 no-undo.
    define variable currentDetailID  as integer                 no-undo.
    define variable isInventoryAddedInSession    as logical  initial false     no-
undo.
    define variable isInventoryInOpentask        as logical  initial false     no-undo.

    define buffer bttPutawayRequestDetail for ttPutawayRequestDetail.

    if not available ttWhseStgZoneListDet then return.
    if not available ttPutawayRequestDetail then return.
    assign
      isNextAlgorithm = true
      currentDetailID = ttPutawayRequestDetail.DetailID.

    ttWhseLocation-loop:
    repeat preselect each ttWhseLocation where ttWhseLocation.DomainCode =
 domainCode
```

```
                    and ttWhseLocation.WarehouseCode = toWarehouseCode

                    and ttWhseLocation.WhseLocationCode <>
ttPutawayRequestDetail.FromLocation

                    and ttWhseLocation.StorageZone = toStorageZone

                    and ttWhseLocation.IsDedicatedToSingleItem = false

                    and ttWhseLocation.CurrentCapacityUtilization = 0

                    and ttWhseLocation.IsActive = true,

    each ttWhseLocDet where ttWhseLocDet.DomainCode = domainCode

                  and ttWhseLocDet.WarehouseCode = toWarehouseCode

                  and ttWhseLocDet.WhseLocationCode =
ttWhseLocation.WhseLocationCode

                  and ttWhseLocDet.SiteCode = toSiteCode

    :

    find next ttWhseLocDet no-error.

    if not available ttWhseLocDet then leave ttWhseLocation-loop.


    assign isInventoryAddedInSession = false

        isInventoryInOpentask     = false.


    isInventoryAddedInSession = this-
object:PutawayFunctions:IsInventoryAddedInSession(input toSiteCode,

                                                   input toWarehouseCode,

                                                   input
ttWhseLocation.WhseLocationCode,

                                                   input ?,   /* itemCode  */

                                                   input ?,   /* lotSerial */

                                                   input ?,   /* reference */
```

```
                                                input
ttPutawayRequestDetail.DetailID,

                                                input dataset dsPutawayRequest
by-reference,

                                                input dataset dsPickingRequest
by-reference).


      /* check open task if no inventory added in the session */

      if not isInventoryAddedInSession and

        can-find(first ttOpenWhseTask where ttOpenWhseTask.DomainCode
= domainCode

                                and ttOpenWhseTask.ToWarehouseCode =
toWarehouseCode

                                and ttOpenWhseTask.ToSiteCode      = toSiteCode

                                and ttOpenWhseTask.FinalLocation   =
ttWhseLocation.WhseLocationCode)

      then

        isInventoryInOpentask = true.



      if not isInventoryAddedInSession and not isInventoryInOpentask and

        this-object:InventoryDetailService:IsEmptyLocation(input domainCode,

                                                input toSiteCode,

                                                input
ttWhseLocation.WhseLocationCode)

      then do:

        if newRequestDetailID = 0 then

          find first bttPutawayRequestDetail where
bttPutawayRequestDetail.HeaderID = ttPutawayRequestDetail.HeaderID
```

```
                                    and bttPutawayRequestDetail.DetailID =
currentDetailID no-error.

        else

          find first bttPutawayRequestDetail where
bttPutawayRequestDetail.HeaderID = ttPutawayRequestDetail.HeaderID

                                    and bttPutawayRequestDetail.DetailID =
newRequestDetailID no-error.


        if available bttPutawayRequestDetail then do:

          this-object:PutawayFunctions:UpdatePutawayRequest(input
domainCode,

                                    input toSiteCode,

                                    input toWarehouseCode,

                                    input toStorageZone,

                                    input toAreaCode,

                                    input ttWhseLocation.WhseLocationCode,

                                    input itemCode,

                                    input lotSerial,

                                    input reference,

                                    input packCode,

                                    input itemUM,

                                    input isSingleItem,

                                    input isSingleLot,

                                    input algorithmType,

                                    input algorithmCode,

                                    buffer bttPutawayRequestDetail,
```

```
                                input-output dataset dsPutawayRequest by-
reference,
                                input-output dataset dsWhseLocation by-reference,
                                input-output dataset dsWhseLocItemDet by-
reference,
                                output isNextLocation,
                                input-output newRequestDetailID
                              ).

            if not isNextLocation then do:
              isNextAlgorithm = false.
              leave ttWhseLocation-loop.
            end.
          end.
        end.
      end.

  end method.
```

Warehouse Algorithm Assignments

After creating Algorithms and Algorithm types, you can set up a sequence of algorithms to specify the ideal method for selecting locations in a prioritized manner, starting with the most preferred location. The following table lists the algorithm and transaction type combinations that come in the standard system:

Algorithm Type	Transaction Type	Details
LF	PICK-SO / PICK-DO	Identifies where material should be transferred within functional areas.
LF	PUT-TR / OTF-TR	Identifies the most optimal location to send inventory within functional areas.
LF	PICK-SO / PICK-DO	Identifies where materials should be transferred within non-functional areas.
PA	PUT-TR / OTF-TR	Identifies the most optimal location to send inventory within non-functional areas.
PA	PICK-SO / PICK-DO	Identifies Inventory to be transferred.
PK	PICK-RE	Identifies the location from where the inventory is to be replenished.

Warehouse Algorithm Assignments allows you to create and manage a list of warehousing algorithms that are assigned to specific transaction types.

Warehouse Algorithm Assignments View

Summary Panel

The Summary panel is located between the menu and the navigation bar. It displays the key data of the algorithm assignment you are working on, including Site / Site Description, Warehouse / Warehouse Description, Algorithm Type / Description, and Storage Zone / Description. These fields are read-only.

Main Panel

The Main panel allows you to manage the basic information of an algorithm assignment. The panel contains the following fields:

Algorithm Type

This field displays the Warehouse Algorithm Type. You can select Location Type, Picking, or Putaway from the dropdown menu. This is a mandatory field.

Site

Enter a site from the Sites lookup window. This is a mandatory field.

Item

Optionally, look up or enter the desired Item from the Items window.

Address

Optionally, look up or enter the desired address from the operational Address List Types window.

Transaction Type

Enter or select the type of transaction corresponding to the algorithm assignment from the lookup window. This is a mandatory field.

Warehouse

Enter or select the warehouse to which to assign the algorithm from the Warehouses lookup window. This is a mandatory field.

Note If the Warehouse and the Site entered are not linked, the system notifies you the Site/Warehouse combination is invalid.

Warehouse Item Type

Enter or search the item type from the Generalized Code lookup.

Assignments Panel

The Assignments panel grid displays the sequence for each algorithm. This grid allows you to create, modify, or delete sequence assignments and includes the Sequence, Algorithm, and Description columns.

Sequence

Enter the numerical sequence you want to assign to the algorithm. This field is mandatory and allows up to three digits.

Algorithm

Enter or select the desired algorithm from the Warehouse Algorithms lookup window. This is a mandatory field.

Note If the algorithm entered is already assigned to another sequence, the system notifies you the algorithm is assigned to another sequence.

Description

This read-only field displays the algorithm description.

Creating a Warehouse Algorithm Assignment

1. Go to **Warehouse Algorithm Assignments**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Algorithm Assignments View**.
4. Click Save to create the new record.

Modifying a Warehouse Algorithm Assignment

1. Go to **Warehouse Algorithm Assignment**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Algorithm Assignments view.**
4. Click Save to update the record.

Deleting a Warehouse Algorithm Assignment

1. Go to **Warehouse Algorithm Assignments**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse Alternate Task Types

You can use **Warehouse Alternate Task Types** to link the desired alternate task type to a standard task, and specify the circumstances when the alternate task type will be used.

The system task types that are supported are:

- Picking (PICKING)
- Replenishment (REPLEN)
- Putaway (PUTAWAY)
- Inventory Transfer (TRANSFER)

Warehouse Alternate Task Types View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. Displays the key data of the warehouse alternate task type you are working on, and its description. These fields are read-only and stay in view when scrolling down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a warehouse alternate task type. The panel contains the following fields:

Alternate Task Type

Enter a name that uniquely identifies the new alternate task type. This is a mandatory field.

Description

Enter a description for the alternate task type. This is an optional field.

Characteristics Panel

The Characteristics panel allows you to define the specific attributes for the new warehouse alternate task type. The panel contains the following fields:

Task Type

Enter the task type to link with the alternate task type. This is a mandatory field.

Sequence

Enter the sequence in which the alternate task should be considered. This is a mandatory field.

From Site

Enter the from site. This is an optional field.

From Warehouse

Enter the from warehouse. This is an optional field.

From Area

Enter the origin area. This is an optional field.

From Work Zone

Enter the from work zone. This is an optional field.

From Location

Enter the from location. This is an optional field.

To Site

Enter the to site. This is an optional field.

To Warehouse

Enter the destination warehouse. This is an optional field.

To Area

Enter the destination area. This is an optional field.

To Work Zone

Enter the destination work zone. This is an optional field.

To Location

Enter the destination location. This is an optional field.

Confirmation Mode

Specify the default confirmation method for the alternate task type. If set to Auto, the movement confirmation is performed automatically; if set to Manual, the task must be confirmed manually by a user.

Creating a Warehouse Alternate Task Type

1. Go to **Warehouse Alternate Task Types**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Alternate Task Types View**.
4. Click Save to create the new record.

Modifying Warehouse Alternate Task Types

1. Go to **Warehouse Alternate Task Types**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Alternate Task Types View.**
4. Click Save to update the record.

Deleting a Warehouse Alternate Task Type

1. Go to **Warehouse Alternate Task Types**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse Areas

Warehouse areas reflect a physical space in the warehouse where you perform specific actions. Within the warehouse, the first segregation is an Internal Routing Group (IRG) or area. An area represents a specific grouping or type of functional process such as receiving, inspection, storage, or shipping. The types of areas you set up also determine the types of rules you can use for product storage and retrieval. Warehouse areas can be set as functional or non-functional.

- **Functional Areas** store inventory temporarily due to the nature of the processes in the area, such as shipping or receiving areas.
- **Non-functional Areas** store inventory for longer periods of time, such as a storage area.

Warehouse Areas View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the warehouse area you are working on, including Warehouse / Description, Area / Description, and Functional. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information about a warehouse area and select whether the area is a functional or non-functional area.

Warehouse

Click the field to display the Warehouses hybrid view and select the desired warehouse or enter the name of the warehouse directly in the field. The system displays the description of the warehouse on the right side of the field. This is a mandatory field.

Area

Enter an area ID to identify this warehouse, for example Area_3. This field is mandatory.

Description

Enter a description of the area.

Functional

This check box specifies if the area is functional or non-functional and it is cleared, or set to non-functional, by default.

Storage Zone Defaults Panel

The Storage Zone Defaults panel displays different check boxes that allow you to further manage the capabilities of the warehouse area. The fields relate to the permitted movement of stock into and out of locations in the area. The values you choose for these fields are not applied directly, but default to all the Storage Location Groups you set up within this area. By selecting or clearing the different check boxes, you can allow or exclude actions in the area such as inbound returns or inventory picking.

Note All Storage Zone Defaults check boxes are cleared by default.

Allow Issues

Select this check box to allow inventory issuing from locations in the current area.

Allow Receipts

Select this check box to specify if inventory can be received into the area locations from outside the system.

Allow Inbound Returns

Select this check box to allow inventory to be received into area locations as part of a returned issue.

Allow Outbound Returns

Select this check box to allow inventory to be issued from locations in the current area as part of a returned issue.

Exclude from Picking

Select this check box to specify if the inventory can be excluded from picking.

Allow Mixed Status Codes

Select this check box to allow the area to contain inventory with a mixture of different status codes.

Creating a Warehouse Area

1. Go to **Warehouse Areas**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Areas View**.
4. Click Save to create the new record.

Modifying a Warehouse Area

1. Go to **Warehouse Areas**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Areas view.**

4. Click Save to update the record.

Deleting a Warehouse Area

Note If an area is assigned to storage zones, the system notifies you that the storage zone exists and cannot be deleted. You must delete the area from the Storage Zone before deleting the area.

1. Go to **Warehouse Area**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse Items

With **Warehouse Items** you can set up characteristics related to warehousing for an item, and define how to handle certain types of inventory-related actions.

Warehouse Items View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the warehouse item you are working on, including Item, Warehouse, and Site, with their respective Descriptions to the right of the field. These fields are read-only and stay in view when scrolling down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a warehouse item. The panel contains the following fields:

Item

Enter an item from the lookup window. The system displays the description of the item to the right. This field is mandatory.

Warehouse

Enter an active warehouse from the lookup window. The system displays the description of the warehouse to the right. This field is mandatory.

Site

Enter a site to associate to the item from the lookup window. The system displays the description of the warehouse to the right. This field is mandatory.

Classification Panel

The Classification panel allows you to define the basic information of a warehouse item. The panel contains the following fields:

Storage List

Enter a storage list from the lookup window. The system displays the description of the warehouse to the right. This field is mandatory.

Storage Zone

Enter a storage zone from the lookup window. This field is mandatory.

Warehouse Item Type

Enter a warehouse item type from the lookup window. You can enter up to 3 digits in the field. This field is mandatory.

Replenishment Type

Enter a replenishment type, such as pallet, loose, or boxes from the lookup window. This is used to group items together with the same replenishment requirements. Leave this field blank if the item does not belong to a particular replenishment type.

Shelf Life

Enter the shelf life for the item, that is the length of time in days that an item may be stored in the zone without becoming unfit for use, consumption, and sale.

Allow Splitting

Specify if stock can be picked from locations in the storage zone in situations where the quantity required for the pick does not match the unit of measure in which the item is stocked in the location. Click the checkbox if this unit of measure can be split into smaller units. Otherwise, leave it unchecked.

Inspection Panel

The Inspection panel allows you to define the inspection requirements and details in a warehouse item. The panel contains the following fields:

Inspection Required

This checkbox specifies if an inspection is required for the item.

Receipt Inspection Frequency

Enter the frequency in which inspections must take place during receipt of the item.

Sample Quantity

Enter the quantity to be inspected on this sample, expressed in the item’s unit of measure.

Destructive Test

Specify if the test applied to the sample is a destructive test. If checked, the sample must be issued using an unplanned issue transaction. If unchecked, when the inspection does not fail, the system generates a new transaction based on a new internal routing to put the sample back in stock.

Receipts since last inspection

Displays the number of tasks created for Inspection Location since the last inspection was done.

Inspection Days

Enter the frequency in days that an inspection should take place. If an inspection has not occurred in the number of days entered in this field, the system will determine that an inspection should be performed.

Sample Percentage

Specify a percentage of the quantity being received to be inspected. The system rounds the result to the closest integer value if the percentage of the received quantity is not an integer.

Random Inspection

Specify if the inspection should occur randomly.

Last Inspected

Displays the date when the last transfer to the inspection location occurred.

Dimensions Panel

The Dimensions panel allows you to define the dimensions of objects in a warehouse item, such as weight and volume. The panel contains the following fields:

Pallet Maximum Height

Specify the maximum height of the pallet for the item. This field modifies the capacity calculation for the corresponding item to consider the stacking of pallets. When the location capacity is defined in referenced units of measure such as pallets, the result of the capacity calculation is the multiplication of the height, width, and length. When the maximum pallet height is defined for a given item, the multiplication is made using this maximum height and not the location height.

Size UM

Specify the size unit of measure for length, width, and height.

Maximum Stacking Level

Specify the maximum stacking levels for the item in the storage zone.

Volume

Specify the volume of the pack

Volume UM

Specify the unit of measure for volume.

Unit Storage Weight

Enter the total weight of the full pack, which includes the weight of items in the pack and the weight of the pack.

Weight UM

Specify the unit of measure for weight.

Creating a Warehouse Item

1. Go to **Warehouse Items**.
2. Click New to open the view.

3. Complete the fields described in **Warehouse Items View**.
4. Click Save to create the new record.

Modifying Warehouse Items

1. Go to **Warehouse Items**.
2. Select the row of interest, and click **Edit** or double-click.
3. Modify the fields. The editable fields can be consulted in **Warehouse Items View.**
4. Click Save to update the warehouse item.

Deleting a Warehouse Item

1. Go to **Warehouse Items**.
2. Click Edit or double-click the row you want to delete.
3. Click Delete to remove the record.

Warehouse Item Pack Code Exceptions

The **Warehouse Item Pack Code Exceptions** view allows you to provide specific deviations from the ones defined in Warehouse Items adjusting them to the specific capacity requirements of the pack code.

Warehouse Item Pack Code Exceptions View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the current warehouse item pack code exception, including the Item, Warehouse, Site and Pack Code. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a warehouse item pack code exception. The panel contains the following fields:

Item

Enter the the item you want to update. This field is mandatory.

Warehouse

Enter the warehouse you want to update.

Site

Enter the site. Sites identify areas where inventory is manufactured or stored. This field is mandatory.

Pack Code

Enter the pack code that the item is packaged in. Pack codes help define the way items and inventory are stored to facilitate warehouse and logistics activities. This field is mandatory.

Dimensions Panel

The Dimensions panel allows you to specify and manage the dimensions of the capacity parameters in a warehouse item pack code exception. The panel contains the following fields:

Storage List

Optionally, enter a storage zone list.

Length

Specify the length of the pack

Width

Specify the width of the pack

Height

Specify the length of the pack

Pallet Maximum Height

Specify the maximum height of the pallet for the item in the storage zone. This field modifies the capacity calculation for the corresponding item to consider the stacking of pallets.

When the location capacity is defined in referenced units of measure such as pallets, the result of the capacity calculation is the multiplication of the height, width, and length. When the maximum pallet height is defined for a given item, the multiplication is made using this maximum height and not the location height.

Maximum Stacking Level

Specify the maximum stacking levels for the pack.

Size UM

Specify the size unit of measure for length, width, and height.

Volume

Specify the volume of the pack.

Volume UM

Specify the unit of measure for volume.

Full Pack Weight

Enter the total weight of the full pack, which includes the weight of items in the pack and the weight of the pack.

Weight UM

Specify the unit of measure for weight.

Creating a Warehouse Item Pack Code Exception

1. Go to **Warehouse Item Pack Code Exception**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Item Pack Code Exception View**.
4. Click Save to create the new record.

Modifying a Warehouse Item Pack Code Exception

1. Go to **Warehouse Item Pack Code Exception**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Item Pack Code Exception View.**
4. Click Save to update the record.

Deleting a Warehouse Item Pack Code Exception

1. Go to **Warehouse Item Pack Code Exception**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse Inventory Transactions

This browse is similar to Inventory Transactions, the difference is that in this section you can only consult the information of warehouse transactions, you cannot modify this section.

The displayed inventory transactions are only those where a combination of Site/Locations is assigned to a Warehouse Location. When a Transaction with a Site/Location is not assigned to a Warehouse Location, the inventory transaction must not be displayed in the browse.

Warehouse Inventory Detail

Note This browse only includes inventory if the inventory site is associated to a valid warehouse location.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected sbased on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Putaway Requests Action

You can specify the exact locations where the inventory will be transferred. Alternatively, you can allow the system to determine the locations based on available warehouse locations set up in Material Routings, Algorithm Assignments, and Storage Lists.

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

From Site

Enter the From Site. This is a mandatory field. If you enter a From Site in the filter of the Warehouse Tasks browse with the operator **equals**, the field defaults automatically.

From Warehouse

Enter the From Warehouse. This is a mandatory field. If you enter a From Warehouse in the filter of the Warehouse Tasks browse with the operator **equals**, the field defaults automatically.

From Area

Optionally, enter the From area. If you enter a From Area in the filter of the Warehouse Tasks browse with the operator **equals**, the field defaults automatically.

Include Loose Inventory

Optionally, select the checkbox to include loose inventory.

Include Serialized Inventory

Optionally, select the checkbox to include serialized inventory.

Reason

Optionally, enter a reason which will be assigned to all records in the grid.

Note You can also manually overwrite the reason directly in the grid for each record.

Remarks

Optionally, enter remarks which will be assigned to all records in the grid.

Note You can also manually overwrite the remarks directly in the grid for each record.

To Area

Optionally, select the checkbox and enter a To Area which will be assigned to all records in the grid.

To Storage Zone

Optionally, select the checkbox and enter a To Storage Zone which will be assigned to all records in the grid.

To Location

Optionally, select the checkbox and enter a To Location which will be assigned to all records in the grid.

Note You can also manually overwrite the To Location directly in the grid for each record.

Search

Select Search to populate the Requests panel with inventory to be putaway based on the information entered in the Criteria and Options panels.

Requests Panel

Run Engine (button)

Click the Run Engine button to calculate the serials and/or loose inventory to be putaway based on Warehousing setups. The Run Engine button populates the To Site, To Warehouse, To Area, To Storage Zone, To Location, Current Utilization %, and Algorithm Type/ Number fields.

Note The Engine runs automatically when the Submit button is clicked.

Select (Checkbox)

Specify the inventory to be putaway by selecting the corresponding checkbox.

Note The Run Engine runs only for rows where the checkbox is selected.

Item

Displays the item. If there are multiple items in the pack, this field is blank.

Description

Displays the item description. If there are multiple items in the pack, this field is blank.

Lot/Serial

Displays the lot/serial for the inventory. If there are multiple lot/serials in the pack, this field is blank.

Reference

Displays the reference number for the inventory. If there are multiple items in the pack, this field is blank.

Serial

Displays the master serial for the pack.

From Site

Displays the From Site for the inventory.

From Warehouse

Displays the From Warehouse for the inventory.

From Area

Displays the From Area for the inventory.

From Storage Zone

Displays the From Storage Zone for the inventory.

From Location

Displays the From Location for the inventory.

To Site

Displays the To Site. If the To Location is populated, this field is calculated based on that location. If the To Location is not populated, this is automatically calculated when the engine is run.

To Warehouse

Displays the To Warehouse. If the To Location is populated, this field is calculated based on that location. If the To Location is not populated, this is automatically calculated when the engine is run.

To Area

Displays the To Area. If the To Location is populated, this field is calculated based on that location. If the To Location is not populated, this is automatically calculated when the engine is run.

To Storage Zone

Displays the To Storage Zone. If the To Location is populated, this field is calculated based on that location. If the To Location is not populated, this is automatically calculated when the engine is run.

To Location

Enter the To Location. If the To Location is not populated, this is automatically calculated when the engine is run. This field can be manually updated in the grid to override the To Location calculated by the engine.

Current Utilization %

Displays the current To Location utilization.

Algorithm Type/Number

Displays the algorithm type/number used by the engine.

Stage

Displays the stage of the serial to be putaway. If the row contains loose inventory, this field is blank.

Pack Code

Displays the pack code of the serial to be putaway. If the row contains loose inventory, this field is blank.

Pack Code Description

Displays the pack code description for the serial to be putaway. If the row contains loose inventory, this field is blank.

External Serial

Displays the external serial for the serial being putaway. If the row contains loose inventory, this field is blank.

Origin Code

Displays the origin code for the serial to be picked.

Quantity Loose

Displays the quantity of loose inventory.

Quantity in Pack

Displays the quantity in the pack for the serial.

Using the Putaway Requests action:

Use the **Warehouse Inventory Detail**> **Putaway Requests** action to generate warehouse jobs and tasks moving loose inventory & serials into designated warehouse locations.

Follow these steps to use the Putaway Requests action:

1. In **Warehouse Inventory Detail**, use Search and filter for a range of inventory.
2. Select Putaway Requests from the Action menu. The Putaway Requests window opens.
3. In the Options panel, enter the required information.
4. Select Search to populate the Requests grid with a list of inventory based on the Search Criteria and the settings in the Options panel.
5. In the Requests grid, select the inventory you want to putaway by selecting the corresponding checkboxes.
6. Select **Submit** to complete the action.

Warehouse Jobs

Warehouse Jobs cover a group of actions that need to occur like picking a production order picklist, picking a Sales Order Pre-Shipper, or putting away inventory received from a supplier and a specific PO Receiver.

In the Warehouse Jobs details the information of the specific items/order lines to pick/put away or replenish are captured as well as the exact quantities needed. Some fields in the main panel and job details may be visible or not depending on the Transaction Type configuration you select.

Warehouse Jobs View

Summary Panel

The summary panel displays the key data of the warehouse jobs you are working on, including job, status, task type and description. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Job

This is a read only field. Displays the ID of the job.

Status

Enter the status of the job, these are the following options:

- New: Indicates the job is created and is ready to perform.
- In Process: Indicates the job is being performed. You can perform the same tasks but you are not able to see it on the display and work on it.
- Exported:Indicates the Job and its associated Job Lines and Tasks are being exported to a Third Party software and does not need to be maintained in this QAD software.
- Completed: Indicates the job and all the requirements existing in the jobs details are completed or canceled by the user, then it is moved to the history records.
- Canceled. Indicates that the job is canceled and it is moved to the history records.

Note The only value to which the Status can be changed to is Canceled. If the job line status is set in completed or canceled all fields are read only.

Wave

Enter the wave ID or leave blank to have the system automatically generate the ID.

Priority

Enter the priority of the job.

Reason

Enter the reason associated with the specified job.

Remarks

Optionally enter the remarks associated with the specified job.

Transaction Type

This is a read only field. Displays the job type associated with the specified job. Depending on the job type selected some fields may be visible or not, these are the following options:

- PICK-SO
  - Shipper field should be visible.
  - Picklist field should not be visible.
- PICK-WO
  - Picklist and Sequence fields should be visible.
  - Shipper filed should not be visible.
- PICK-RE
  - Shipper and Picklist fields should not be visible.
- PICK-DO
  - Shipper and Picklist fields should not be visible.
- PUT-TR
  - Shipper and Picklist fields should not be visible.

See more detailed information about transaction type at Warehouse Transaction Types on page 4138.

Warehouse

This is a read only field. Displays the warehouse associated with the specified job.

Site

This is a read only field. Displays the site associated with the specified job.

Priority Increment

Indicates the priority increment associated with the specified job.

Shipper

This is a read only field. Displays the shipper associated with the jobs. This field is visible only if the PICK-SO option is selected in the Transaction Type field.

Picklist

This is a read only field. Displays the picklist number of the job. This field is visible only if the PICK-WO option is selected in the Transaction Type field.

Created By

This is a read only field. Displays the user who creates the job.

Created Date/Time

This is a read only field. Displays the date and time when the job was created.

Last Modified By

This is a read only field. Displays the user who was the last to modify the record.

Last Modified Date/Time

This is a read only field. Displays the last date and time when the record was modified.

Closed By

This is a read only field. Displays the user who performed the job and closed it.

Closed Date/Time

This is a read only field. Displays the date and time when the job was closed because the user successfully performed all tasks created on it or the date the job was closed because it was canceled.

Job Details

Job Line

This is a read only field. Displays the number job line associated with the event.

Item

This is a read only field. Displays the item.

Description

This is a read only field. Displays the description of the job.

Status

This is a read only field. Displays the job line status associated with the specified job ID.

Note If Job Status in the Main Panel was changed, from New, In Process or Exported to Canceled and Job Line Status is New, Pending or In Process, then the Job Line Status must update to Canceled.

Quantity Required

Enter quantity required.

Quantity Canceled

Enter quantity canceled.

Quantity Completed

Indicates quantity completed.

Quantity Open

Indicates quantity opened.

Order

This is a read only field. Displays the order number associated with the job.

Order Line

This is a read only field. Displays the order line associated with the job.

Requisition

This is a read only field, indicating the requisition number.

Replenishment Storage Zone

This is a read only field. Displays the storage zone associated with the job.

Replenishment Location

This is a read only field, indicating the replenishment location associated with the job.

Last Modified By

This is a read only field. Displays users who modified the event.

Last Modified Date/Time

This is a read only field. Displays the date and time when the job was modified.

Closed By

This is a read only field. Displays the users who modified the sub event.

Closed Date/Time

This is a read only field. Displays the date and time when the job was closed because the user successfully performed all tasks created on it or the date the job was closed because it was cancel.

Modifying Warehouse Jobs

1. Go to **Warehouse Jobs**.
2. Select the row to modify, then click **Edit** or double-click the row, only rows with status in New, In Progress or Exported, can be modified.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Warehouse Jobs

1. Go to **Warehouse Jobs**.
2. Select the row of your interest and click **Edit**, or double-click the row, only rows with status in New, In Progress or Exported, can be canceled.
3. In the status field, change to Canceled.
4. Click **Save** to continue.

Actions

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, after you select the records and set options, you can simulate or submit the action request.

Bulk Edit

Go to **Warehouse Jobs** > Bulk Edit action

This section allows you to automatically update all jobs that have not been canceled or completed when you make changes to fields such as Wave, Priority, Priority Increment,Status, Reason and Remarks. This automation helps to manage jobs more efficiently and results in more accurate data.

Summary Panel

The summary panel is located between the menu bar and the navigation bar. The summary panel displays the Lines Selected from the grid. This means the number of Jobs which will be updated on submit. This field is read-only and stays in view even when you scroll down the page.

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

The options panel allows users to specify changes to be applied to all records in the grid after it is populated.

Wave

Optionally, select the checkbox and assign a Wave which will be assigned to all records in the grid. You can click on the generate wave button to create a new wave based on a predefined setup in the Number Ranges screen.

Note You can only use the Generate Wave button if there is no wave already populated in the Wave field. You can also manually overwrite the wave directly in the grid for each record.

Priority

Optionally, select the checkbox and assign a priority which will be assigned to all records in the grid.

Note You can also manually overwrite the priority directly in the grid for each record.

Priority Increment

Optionally, select the checkbox and assign a priority increment which will be assigned to all records in the grid.

Note You can also manually overwrite the priority increment directly in the grid for each record.

Status

Optionally, select the checkbox and assign the *Canceled* status, which will be assigned to all records in the grid.

Note You can also manually overwrite the status directly in the grid for each record.

Reason

Optionally, enter a reason which will be assigned to all records in the grid.

Note You can also manually overwrite the reason directly in the grid for each record.

Remarks

Optionally, enter remarks which will be assigned to all records in the grid.

Note You can also manually overwrite the remarks directly in the grid for each record.

Jobs Panel

Jobs (checkbox)

Specify which jobs will be edited after the Submit button is clicked by selecting the corresponding checkbox.

Note The number of Lines checked will be reflected in the summary panel for Lines selected.

Job

Displays the warehouse job. This is a read-only field.

Transaction Type

Displays the transaction type associated with the warehouse job. This is a read-only field.

Current Status

Displays the current status of the job. This is a read-only field.

New Status

Optionally, assign the canceled status. If you enter a status in the Options panel, the field defaults to that value.

Wave

Optionally, assign a wave. If you enter a wave in the Options panel, the field defaults to that value.

Priority

Optionally, assign the priority. If you enter a priority in the Options panel, the field defaults to that value.

Priority Increment

Optionally, assign the priority increment. If you enter a priority increment in the Options panel, the field defaults to that value.

Reason

Optionally, assign a reason. If you enter a reason in the Options panel , the field defaults to that value.

Remarks

Optionally, assign remarks. If you enter remarks in the Options panel, the field defaults to that value.

Warehouse

Displays the warehouse associated with the specified job.This is a read only field.

Site

Displays the site associated with the job.This is a read-only field.

Shipper

Displays the shipper associated with the job.This is a read-only field.

Created By

Displays the user who creates the job.This is a read-only field.

Created Date/Time

Displays the date and time when the job was created.This is a read-only field.

Last Modified By

Indicates the last user who edited the job. This is a read-only field.

Last Modified Date/Time

Displays the last date and time when the job was modified.This is a read-only field.

Using the Bulk Edit Action

To use the Bulk Edit action, perform the following steps:

1. In **Warehouse Jobs**, use Search and filter for a range of jobs.
2. On the Action menu, select the Bulk Edit Action. The Bulk Edit window opens.
3. On the Options panel, enter the required information.
4. Select Search to populate the Jobs grid with a list of warehouse jobs based on the Search Criteria and the settings in the Options panel.
5. In the Jobs grid, select the warehouse jobs you want to update by selecting the corresponding checkboxes, and edit the required information.
6. Select Submit to complete the action.

Warehouse Job History

Use this browse to view the historical records of jobs and job details.

Warehouse Locations

Warehouse Locations allows you to specify locations within a particular site where the inventory is stored or to modify an existing one. A warehouse location can be an aisle, shelf, bin and so on.

Some important uses for this screen are:

- Assign the location to a specific warehouse and storage zone.
- Determine if the location is dedicated to a specific item number and pack code or if it is for general use.
- Specify where the location physically exists, whether it is an aisle, rack or shelf.
- Specify the dimensions of the location maximum volume (length, width, height, volume, maximum volume and maximum weight).
- Specify how the capacity for the location is determined, whether it is by number of units, packs, or by volume. Capacity is only taken into consideration if the warehouse location is within a non-functional area that is driven by capacity, such as stock.
- Specify an Alternate ID for the location. This unique ID is assigned to a location so that warehouse managers can create “hidden” location values. This ensures that when employees confirm the movement of inventory, they are scanning location tags instead of manually entering the known location names.
- Specify Stage In location. This represents a temporary warehouse location, which exists in the system, where inventory resides prior to arriving in the current location.
- Specify Stage Out location. This represents a temporary warehouse location, which exists in the system, where inventory resides after it is moved out the current location.
- Specify the Popularity of the location, which indicates the ease of access to the inventory. The system matches the popularity of items with the popularity of locations. For example, fast-moving items can be set up to be stored in the most accessible locations.
- Assign a travel sequence number to this location, which is used in conjunction with the numbers assigned to other locations to define a travel sequence within the warehouse. This feature allows you to minimize travel within the warehouse because the system searches for the location that has a travel sequence number closest to the value of the current location's travel sequence number.

Warehouse Locations View

Summary Panel

The Summary panel is located between the menu and the navigation bar. It displays the key data of the warehouse locations you are working on, including Warehouse, and Warehouse Location. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel allows you to specify and manage the basic information of warehouse locations. The panel contains the following fields:

Warehouse

Enter the warehouse you want to update.This is a mandatory field.

Warehouse Location

Enter a warehouse location. This is a mandatory field.

A warehouse location specifies the physical location within a particular site where inventory is stored. Every item in inventory is associated with a standard QAD location. The Location Code must be specified on every inventory transaction--issues, receipts, transfers, and counts. When assigning location codes, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Well-devised coding schemes can make life easier in the stockroom. A warehouse location must already exist as a valid ERP location. The ERP location must be set as a permanent location. In addition, the warehouse location must be valid for the Site in the Site Assignments panel, and the Site must exist for the Warehouse entered.

Description

Enter a short description of the warehouse location, usually describing where to look for it.

Dedicated

Select the checkbox to indicate that the warehouse location is dedicated to store a specific item number. You are able to specify which item is stored in the warehouse location in the last frame of the program.

Active

Select the checkbox to activate the warehouse location.

Note When a warehouse location is inactive, the location is not considered for task creation and it cannot be used by Data Collection transactions.

Storage Panel

Storage Zone

Enter the storage zone to which the warehouse location belongs.This is a mandatory field.

Note If you assign a warehouse location to a particular storage zone, then the rules for the zone apply to all transactions being processed there.

Work Zone

Specify the work zone to which the warehouse location belongs. This field is mandatory.

Note When a warehouse location is assigned to a particular work zone, the user groups assigned to it are able to perform transactions within those locations. If transacting between locations, you must assign the From and To work zones in order to perform the task.

Warehouse Location Type

Enter the storage type for the warehouse location. The storage type, which is configured in Generalized Codes, allows for the classifying of goods. For example, the warehouse location type can be set up to match the warehouse item type and be used to drive the putaway transaction, such as pallets, boxes, or partials.

The system does not perform any validation in this field. It can be used to suggest a certain behavior for material movements. This field is for reference only.

Alternate ID

Enter a unique code for the warehouse location. This unique ID is assigned to a location so warehouse managers can create “hidden” location values. This ensures that when employees confirm the movement of inventory, they are scanning location tags instead of manually entering the known location names.

You can enter this value manually or decide to auto-generate it by checking the Auto Gen Alt ID. You can also leave this field blank if an Alternate ID will not be used for this location.

Travel Sequence

Enter a travel sequence number for this location. This is used along with the numbers assigned to other locations to define a travel sequence within the warehouse.

This feature allows you to minimize travel within the warehouse because the system searches for the location that has a travel

sequence number closest to the value of the current location's travel sequence number.

You can assign the same travel sequence number to multiple warehouse locations but it is recommended that the sequence numbers be unique for each warehouse to ensure the best optimization.

Stage In Location

Specify the stage in location, which represents a temporary Warehouse Location where inventory resides prior to arriving in the current location.

Stage in and out locations are useful when certain fork-lift trucks or engines are used within the aisle while other equipment is used from another area to the aisle itself. For example, when you make a putaway,you must find the destination location, but the RF terminal shows the movement from the receipt area to the stage first and then another task is created to move goods from the stage to the destination location.

The stage in and out locations must be defined as warehouse locations.

Stage Out Location

Specify the stage out location, which represents a temporary Warehouse Location where inventory resides after it is moved out the current location.

Stage in and out locations are useful when certain fork-lift trucks or engines are used within the aisle while other equipment is used from another area to the aisle itself. For example, when you make a putaway, you must find the destination location, but the RF terminal shows the movement from the receipt area to the stage first and then another task is created to move goods from the stage into the destination location.

For issues, when picking goods out of the location to the dispatch area, the first movement is from the location to the stage out and the second is from the stage out to the dispatch area.

The stage in and out locations must be defined as warehouse locations in the system.

Last Opportunity Count

Displays the date the latest count was performed in this warehouse location.

Allow Mixed Dates

Select the checkbox if inventory with mixed dates, such as expiration or commission dates, can be stored in this location. If the checkbox is selected, then if any inventory has different dates, such as commission dates, the system allows the items to be stored in this location. If this

field is not selected and Item A has a different commission date than Item B, the system will not allow them to be stored in this location together. During the putaway process, the system will search for the next location where the other item can be stored.

Aisle

Optionally, specify the physical location in the aisle. This field is used for informational purposes only.

Rack

Optionally, specify the physical location on the rack. This field is used for informational purposes only.

Shelf

Optionally, specify the physical location on the shelf. This field is used for informational purposes only.

Popularity

Popularity is an indicator describing turnover. Enter a code to define the relative priority for choosing this location when the system has a choice of locations in which to put away inventory. Low alphanumeric values for the Popularity code indicate greater popularity.

For example, a popularity code of AAA indicates a popular location that is easily accessed, while a code of ZZZ indicates an unpopular location that is perhaps difficult to access.

You typically put fast-moving stock in the low-value popularity code locations, and slow-moving stock in the higher ones.

Total Counts

Displays the total number of opportunity counts performed in this warehouse location.

Allow Mixed Lot/ Serial ID

Select the checkbox to allow the receipt or transfer of more than one lot or Serial ID. This allows you to specify if more than one Lot or Serial ID may be stored in this warehouse location.

Note If you do not select the checkbox, you will prevent the receipt or transfer of more than one lot or serial ID in this location. This is especially useful in situations where ingredients are stored in tanks or silos and must never mix. Or, when different dye lots, potencies, or grades of an item should not be mixed.

Site Assignments Panel

Site

Enter a code identifying a site. This field is mandatory and allows users to link a specific warehouse location with a site. A warehouse location can be linked to multiple sites.

Note The site entered must exist for the warehouse entered in the main panel.

Description

Displays a short description of the site.

Capacity Utilization Panel

Capacity Utilization Option

Specify the capacity utilization option for this warehouse location.

The system uses this information to calculate the capacity using simple quantities by unit of measure or use available volume remaining. Select from the following options:

- Unit. When a unit is selected, the capacity is measured by the number of items in a warehouse location. You will specify the item number, UM, and Utilization % in the last frame of the program.
- Pack. When pack is selected, the capacity is measured by the number of master serial IDs in a warehouse location. You will specify the item number, pack code, and Utilization % in the last frame of the program.
- Blank. If the warehouse location belongs to a functional area, the capacity utilization option is blank and cannot be updated and in such cases, the capacity does not get calculated.

Current Utilization %

Displays the current utilization %, which is automatically generated by comparing the maximum capacity with the inventory on hand. This field is for reference only.

Preferred Pack Code

Specify the pack code that can be stored in this warehouse location. For example, if items are stored in a specific bin or on a specific pallet in this location, you can enter the pack code for that bin or pallet. This field only indicates which pack code is preferred. The system does not restrict the storage zone to the pack code that is entered.

Maximum Weight

Enter the maximum weight that can be stored in this warehouse location. For example, if this location is a shelf or rack that has a maximum load capacity, you would enter that specification in this field.

Current Weight

Displays the current weight in the warehouse location. This is an automatically generated value calculated by comparing the maximum weight with the inventory on hand. This field is for reference only.

Weight UM

Enter the unit of measure in which the maximum weight is displayed

Enforce Weight

Select the checkbox to prevent users from transferring items/pallets that weigh more than the maximum weight.

Length

Enter the length of the warehouse location. The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Width

Optionally, enter the width of the warehouse location.The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Height

Optionally, enter the height of the warehouse location. The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Size UM

Enter the unit of measure for all the dimensions entered in the Length, Height, and Width fields.

Maximum Volume

This field displays the total volume of the warehouse location. The total volume is calculated based on the parameters entered in the Length, Height, and Width fields. If necessary, you can manually enter a value and overwrite the calculation.

Current Volume

Displays how much volume is currently being used in this location.

Volume UM

Enter the unit of measure for the location volume.

Enforce Volume

Select the checkbox to prevent users from transferring inventory into this location if it exceeds the maximum volume entered in the volume field.

Item Assignments Panel

Item

Enter the item number if a specific assignment for this warehouse location is required. You can leave this field blank if this warehouse location is used for general use.

If the Dedicated checkbox is selected, enter the item number that is stored in this warehouse location.

If the Capacity Utilization Option checkbox is not selected, the item number entered in the field defines the specific rules for capacity calculation.

Capacity Calculation logic works in the following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if the location is set to general use).Multiple combinations of Item Number, Pack Code/UM and Utilization % can exist.

Description

This field displays the description of the item.

Pack Code/UM

Specify the pack code or unit of measure for the item if a specific assignment for this warehouse location is required. You can leave this field blank if this warehouse location is used for general use.

If the Dedicated checkbox is selected, enter the pack code of the item that is stored in this warehouse location.

If the Capacity Utilization Option checkbox is not selected, the pack code entered in the field defines the specific rules for capacity calculation.

Capacity Calculation logic works in a following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if

the location is set to general use).Multiple combinations of Item Number, Pack Code/UM and Utilization % can exist.

Utilization %

Enter the utilization % to indicate how much space is taken by a certain Item Number, Pack Code/UM, or a combination of both. For example, if this location can only store 2 pallets (Pack Code PL01), the Utilization % should be 50% (100% / 2). If the same location can store 50 boxes (Pack Code BX01), the Utilization % should be 2% (100% / 50).

Capacity Calculation logic works in the following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if the location is set to general use).

Note Under most circumstances, the Utilization % should be entered as a number between .01 and 100. In the special scenario when the warehouse location record has Capacity Utilization Option = Pack and Dedicated = Yes, the system allows the Utilization % to be set to blank to specify the warehouse location to item association, without requiring capacity input.

Creating Warehouse Locations

1. Go to **Warehouse Locations**.
2. Click the **New** button to add a new row in the grid.
3. Complete the fields described in the Creating Warehouse Locations on page 4082 view.
4. Click **Save** to continue.

Modifying Warehouse Locations

1. Go to **Warehouse Locations.**
2. Select the row of your interest and click **Edit**, or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Warehouse Locations

1. Go to **Warehouse Locations**.
2. Select the row of your interest and double-click.
3. Click the **Delete** button.
4. The system displays a delete confirmation message. Click **Delete**.

Warehouse Location Items

Warehouse Location Items allows you to identify if warehouse locations are dedicated to a specific Item or Items, Pack Codes/UM, or a combination of both.The Warehouse Location Items is linked to the Warehouse Locations browse.

Warehouse Location Items View

Summary Panel

The summary panel is located between the menu and the navigation bar. It displays the key data of the warehouse location items you are working on, including warehouse, and warehouse location. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel allows you to specify and manage the basic information of warehouse location items. The panel contains the following fields:

Warehouse

Enter the warehouse you want to update.This is a mandatory field.

Warehouse Location

Enter a warehouse location. This is a mandatory field.

A warehouse location specifies the physical location within a particular site where inventory is stored. Every item in inventory is associated with a standard QAD location. The location must be specified on every inventory transaction, issues, receipts, transfers, and counts. When assigning locations, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Well-devised coding schemes can make life easier in the stockroom. A warehouse location must already exist as a valid ERP location. The ERP location must be set as a permanent location. In addition, the warehouse location must be valid for the site in the site assignments panel, and the site must exist for the warehouse entered.

Description

Enter a short description of the warehouse location item, usually describing where to look for it.

Dedicated

Select the checkbox to indicate that the warehouse location is dedicated to store a specific item number. You are able to specify which item is stored in the warehouse location in the last frame of the program.

Active

Select the checkbox to activate the warehouse location.

Note When a warehouse location is inactive, the location is not considered for task creation and it cannot be used by Data Collection transactions.

Storage Panel

The main panel allows you to specify and manage the basic information of warehouse location items. The panel contains the following fields:

Warehouse

Enter the warehouse you want to update.This is a mandatory field.

Warehouse Location

Enter a warehouse location. This is a mandatory field.

A warehouse location specifies the physical location within a particular site where inventory is stored. Every item in inventory is associated with a standard QAD location. The location must be specified on every inventory transaction, issues, receipts, transfers, and counts. When assigning locations, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Well-devised coding schemes can make life easier in the stockroom. A warehouse location must already exist as a valid ERP location. The ERP location must be set as a permanent location. In addition, the warehouse location must be valid for the site in the site assignments panel, and the site must exist for the warehouse entered.

Description

Enter a short description of the warehouse location item, usually describing where to look for it.

Dedicated

Select the checkbox to indicate that the warehouse location is dedicated to store a specific item number. You are able to specify which item is stored in the warehouse location in the last frame of the program.

Active

Select the checkbox to activate the warehouse location.

Note When a warehouse location is inactive, the location is not considered for task creation and it cannot be used by Data Collection transactions.

Storage Panel

Storage Zone

Enter the storage zone to which the warehouse location belongs.This is a mandatory field.

Note If you assign a warehouse location to a particular storage zone, then the rules for the zone apply to all transactions being processed there.

Work Zone

Specify the work zone to which the warehouse location belongs. This field is mandatory.

Note When a warehouse location is assigned to a particular work zone, the user groups assigned to it are able to perform transactions within those locations. If transacting between locations, you must assign the From and To work zones in order to perform the task.

Warehouse Location Type

Enter the storage type for the warehouse location. The storage type, which is configured in Generalized Codes, allows for the classifying of goods. For example, the warehouse location type can be set up to match the warehouse item type and be used to drive the putaway transaction, such as pallets, boxes, or partials.

The system does not perform any validation in this field. It can be used to suggest a certain behavior for material movements. This field is for reference only.

Alternate ID

Enter a unique code for the warehouse location. This unique ID is assigned to a location so warehouse managers can create hidden location values. This ensures that when employees confirm the movement of inventory, they are scanning location tags instead of manually entering the known location names.

Travel Sequence

Optionally enter a travel sequence number for this location. This is used along with the numbers assigned to other locations to define a travel sequence within the warehouse.

This feature allows you to minimize travel within the warehouse because the system searches for the location that has a travel sequence number closest to the value of the current location's travel sequence number.

You can assign the same travel sequence number to multiple warehouse locations but it is recommended that the sequence numbers be unique for each warehouse to ensure the best optimization.

Stage In Location

Specify the stage in location, which represents a temporary Warehouse Location where inventory resides prior to arriving in the current location.

Stage in and out locations are useful when certain fork-lift trucks or engines are used within the aisle while other equipment is used from another area to the aisle itself. For example, when you make a putaway,you must find the destination location, but the RF terminal shows the movement from the receipt area to the stage first and then another task is created to move goods from the stage to the destination location.

The stage in and out locations must be defined as warehouse locations.

Stage Out Location

Specify the stage out location, which represents a temporary Warehouse Location where inventory resides after it is moved out the current location.

Stage in and out locations are useful when certain fork-lift trucks or engines are used within the aisle while other equipment is used from another area to the aisle itself. For example, when you make a putaway, you must find the destination location, but the RF terminal shows the movement from the receipt area to the stage first and then another task is created to move goods from the stage into the destination location.

For issues, when picking goods out of the location to the dispatch area, the first movement is from the location to the stage out and the second is from the stage out to the dispatch area.

The stage in and out locations must be defined as warehouse locations in the system.

Last Opportunity Count

Displays the date the latest count was performed in this warehouse location.

Allow Mixed Dates

This field specifies if inventory with mixed dates, such as expiration or commission dates, can be stored in this location.

If any inventory has different dates, such as commission dates, the system allows the items to be stored in this location, select the checkbox to allow the items to be stored in this location. If you do not select the checkbox and Item A has a different commission date than Item B, the system will not allow them to be stored in this location together. During the putaway process, the system will search for the next location where the other item can be stored.

Aisle

Optionally specify the physical location in the aisle.

Rack

Optionally specify the physical location on the rack.

Shelf

Optionally specify the physical location on the shelf.

Popularity

Popularity is an indicator describing turnover. Enter a code to define the relative priority for choosing this location when the system has a choice of locations in which to put away inventory. Low alphanumeric values for the Popularity code indicate greater popularity.

For example, a popularity code of AAA indicates a popular location that is easily accessed, while a code of ZZZ indicates an unpopular location that is perhaps difficult to access.

You typically put fast-moving stock in the low-value popularity code locations, and slow-moving stock in the higher ones.

Total Counts

Displays the total number of opportunity counts performed in this warehouse location.

Allow Mixed Lot/Serial ID

Select the checkbox to allow the receipt or transfer of more than one lot or Serial ID. This allows you to specify if more than one Lot or Serial ID may be stored in this warehouse location.

Note If you do not select the checkbox, you will prevent the receipt or transfer of more than one lot or serial ID in this location. This is especially useful in situations where ingredients are stored in tanks or silos and must never mix. Or, when different dye lots, potencies, or grades of an item should not be mixed.

Site Assignments Panel

Site

This is a mandatory field. Enter a site, allows you to link a specific warehouse location with a site. A warehouse location can be linked to multiple site and location combinations.

Description

Displays a short description of the site.

Capacity Utilization Panel

Capacity Utilization Option

Specify the capacity utilization option for this warehouse location.

This information calculates the capacity using simple quantities by unit of measure or using the available volume remaining. Select from the following options:

- Unit. When a unit is selected, the capacity is measured by the number of items in a warehouse location. You will specify the item number, UM, and Utilization % in the last frame of the program.
- Pack. When pack is selected, the capacity is measured by the number of master serial IDs in a warehouse location. You will specify the item number, pack code, and Utilization % in the last frame of the program.
- Volume: the capacity is calculated as a percentage of volume, which is based on the dimensions defined for a warehouse location and the dimensions defined for the particular inventory.
- Blank. If the warehouse location belongs to a functional area, the capacity utilization option is blank and cannot be updated and in such cases, the capacity does not get calculated.

Current Utilization %

Displays the current utilization %, which is automatically generated by comparing the maximum capacity with the inventory on hand. This field is for reference only.

Preferred Pack Code

Specify the pack code that can be stored in this warehouse location. For example, if items are stored in a specific bin or on a specific pallet in this location, you can enter the pack code for that bin or pallet. This field only indicates which pack code is preferred. The system does not restrict the storage zone to the pack code that is entered.

Maximum Weight

Enter the maximum weight that can be stored in this warehouse location. For example, if this location is a shelf or rack that has a maximum load capacity, you would enter that specification in this field.

Current Weight

Displays the current weight in the warehouse location. This is an automatically generated value calculated by comparing the maximum weight with the inventory on hand. This field is for reference only.

Weight UM

Enter the unit of measure in which the maximum weight is displayed.

Enforce Weight

Select the checkbox to prevent users from transferring items/pallets that weigh more than the maximum weight.

Length

Enter the length of the warehouse location. The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Width

Optionally, enter the width of the warehouse location.The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Height

Optionally, enter the height of the warehouse location. The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Size UM

Enter the unit of measure for all the dimensions entered in the length, height, and width fields.

Maximum Volume

This field displays the total volume of the warehouse location. The total volume is calculated based on the parameters entered in the Length, Height, and Width fields. If necessary, you can manually enter a value and overwrite the calculation.

Current Volume

Displays how much volume is currently being used in this location.

Volume UM

Enter the unit of measure for the location volume.

Enforce Volume

Select the checkbox to prevent users from transferring inventory into this location if it exceeds the maximum volume entered in the volume field.

Item Assignments Panel

Item

Enter the item number if a specific assignment for this warehouse location is required. You can leave this field blank if this warehouse location is used for general use.

If the Dedicated checkbox is selected, enter the item number that is stored in this warehouse location.

If the Capacity Utilization Option checkbox is not selected, the item number entered in the field defines the specific rules for capacity calculation.

Capacity Calculation logic works in the following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if the location is set to general use). Multiple combinations of Item Number, Pack Code/UM and Utilization % can exist.

Description

This field displays the description of the item.

Pack Code/UM

Specify the pack code or unit of measure for the item if a specific assignment for this warehouse location is required. You can leave this field blank if this warehouse location is used for general use.

If the Dedicated checkbox is selected, enter the pack code of the item that is stored in this warehouse location.

If the Capacity Utilization Option checkbox is not selected, the pack code entered in the field defines the specific rules for capacity calculation.

Capacity Calculation logic works in a following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if

the location is set to general use).Multiple combinations of Item Number, Pack Code/UM and Utilization % can exist.

Utilization %

Enter the utilization % to indicate how much space is taken by a certain Item Number, Pack Code/UM, or a combination of both. For example, if this location can only store 2 pallets (Pack Code PL01), the Utilization % should be 50% (100% / 2). If the same location can store 50 boxes (Pack Code BX01), the Utilization % should be 2% (100% / 50).

Creating a Warehouse Location Item

1. Go to **Warehouse Location Items**.
2. Click the **New** button to add a new row in the grid.
3. Complete the fields described in the Warehouse Location Items on page 4083 view.
4. Click **Save** to continue.

Modifying a Warehouse Location Item

1. Go to **Warehouse Location Items.**
2. Select the row of your interest and click **Edit**, or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting a Warehouse Location Item

1. Go to **Warehouse Location Items**.
2. Select the row of your interest and double-click.
3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message . Click **Delete**.

Warehouse Location Capacity

Warehouse Location Capacity allows you to easily identify capacity utilization for warehouse locations such as current capacity %, preferred pack code, dimensions, among others. Warehouse Location Capacity is linked to the Warehouse Locations view.

Warehouse Location Capacity View

Summary Panel

The summary panel is located between the menu and the navigation bar. It displays the key data of the warehouse location capacity you are working on, including warehouse, and warehouse location. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel allows you to specify and manage the basic information of warehouse location capacity. The panel contains the following fields:

Warehouse

Enter the warehouse you want to update.This is a mandatory field.

Warehouse Location

Enter a warehouse location. This is a mandatory field.

A warehouse location specifies the physical location within a particular site where inventory is stored. Every item in inventory is associated with a standard QAD location. The location must be specified on every inventory transaction, issues, receipts, transfers, and counts. When assigning locations, keep in mind that they are alphanumeric and sort in alphabetic sequence. For example, if you set up locations 1, 2, and 10, they will sort as 1, 10, 2. Well-devised coding schemes can make life easier in the stockroom. A warehouse location must already exist as a valid ERP location. The ERP location must be set as a permanent location. In addition, the warehouse location must be valid for the site in the site assignments panel, and the site must exist for the warehouse entered.

Description

Enter a short description of the warehouse location item, usually describing where to look for it.

Dedicated

Select the checkbox to indicate that the warehouse location is dedicated to store a specific item number. You are able to specify which item is stored in the warehouse location in the last frame of the program.

Active

Select the checkbox to activate the warehouse location.

Note When a warehouse location is inactive, the location is not considered for task creation and it cannot be used by Data Collection transactions.

Storage Panel

Storage Zone

Enter the storage zone to which the warehouse location belongs.This is a mandatory field.

Note If you assign a warehouse location to a particular storage zone, then the rules for the zone apply to all transactions being processed there.

Work Zone

Specify the work zone to which the warehouse location belongs. This field is mandatory.

Note When a warehouse location is assigned to a particular work zone, the user groups assigned to it are able to perform transactions within those locations. If transacting between locations, you must assign the From and To work zones in order to perform the task.

Warehouse Location Type

Enter the storage type for the warehouse location. The storage type, which is configured in Generalized Codes, allows for the classifying of goods. For example, the warehouse location type can be set up to match the warehouse item type and be used to drive the putaway transaction, such as pallets, boxes, or partials.

The system does not perform any validation in this field. It can be used to suggest a certain behavior for material movements. This field is for reference only.

Alternate ID

Enter a unique code for the warehouse location. This unique ID is assigned to a location so warehouse managers can create hidden location values. This ensures that when employees confirm the movement of inventory, they are scanning location tags instead of manually entering the known location names.

Travel Sequence

Optionally enter a travel sequence number for this location. This is used along with the numbers assigned to other locations to define a travel sequence within the warehouse.

This feature allows you to minimize travel within the warehouse because the system searches for the location that has a travel

sequence number closest to the value of the current location's travel sequence number.

You can assign the same travel sequence number to multiple warehouse locations but it is recommended that the sequence numbers be unique for each warehouse to ensure the best optimization.

Stage In Location

Specify the stage in location, which represents a temporary Warehouse Location where inventory resides prior to arriving in the current location.

Stage in and out locations are useful when certain fork-lift trucks or engines are used within the aisle while other equipment is used from another area to the aisle itself. For example, when you make a putaway,you must find the destination location, but the RF terminal shows the movement from the receipt area to the stage first and then another task is created to move goods from the stage to the destination location.

The stage in and out locations must be defined as warehouse locations.

Stage Out Location

Specify the stage out location, which represents a temporary Warehouse Location where inventory resides after it is moved out the current location.

Stage in and out locations are useful when certain fork-lift trucks or engines are used within the aisle while other equipment is used from another area to the aisle itself. For example, when you make a putaway, you must find the destination location, but the RF terminal shows the movement from the receipt area to the stage first and then another task is created to move goods from the stage into the destination location.

For issues, when picking goods out of the location to the dispatch area, the first movement is from the location to the stage out and the second is from the stage out to the dispatch area.

The stage in and out locations must be defined as warehouse locations in the system.

Last Opportunity Count

Displays the date the latest count was performed in this warehouse location.

Allow Mixed Dates

This field specifies if inventory with mixed dates, such as expiration or commission dates, can be stored in this location.

If any inventory has different dates, such as commission dates, the system allows the items to be stored in this location, select the

checkbox to allow the items to be stored in this location. If you do not select the checkbox and Item A has a different commission date than Item B, the system will not allow them to be stored in this location together. During the putaway process, the system will search for the next location where the other item can be stored.

Aisle

Optionally specify the physical location in the aisle. This field is used for informational purposes only.

Rack

Optionally specify the physical location on the rack. This field is used for informational purposes only.

Shelf

Optionally specify the physical location on the shelf. This field is used for informational purposes only.

Popularity

Popularity is an indicator describing turnover. Enter a code to define the relative priority for choosing this location when the system has a choice of locations in which to put away inventory. Low alphanumeric values for the Popularity code indicate greater popularity.

For example, a popularity code of AAA indicates a popular location that is easily accessed, while a code of ZZZ indicates an unpopular location that is perhaps difficult to access.

You typically put fast-moving stock in the low-value popularity code locations, and slow-moving stock in the higher ones.

Total Counts

Displays the total number of opportunity counts performed in this warehouse location.

Allow Mixed Lot/Serial ID

Select the checkbox to allow the receipt or transfer of more than one lot or Serial ID. This allows you to specify if more than one Lot or Serial ID may be stored in this warehouse location.

Note If you do not select the checkbox, you will prevent the receipt or transfer of more than one lot or serial ID in this location. This is especially useful in situations where ingredients are stored in tanks or silos and must never mix. Or, when different dye lots, potencies, or grades of an item should not be mixed.

Site Assignments Panel

Site

This is a mandatory field. Enter a site, allows you to link a specific warehouse location with a site. A warehouse location can be linked to multiple site and location combinations.

Description

Displays a short description of the site.

Capacity Utilization Panel

Capacity Utilization Option

Specify the capacity utilization option for this warehouse location.

This information calculates the capacity using simple quantities by unit of measure or using the available volume remaining. Select from the following options:

- Unit. When a unit is selected, the capacity is measured by the number of items in a warehouse location. You will specify the item number, UM, and Utilization % in the last frame of the program.
- Pack. When pack is selected, the capacity is measured by the number of master serial IDs in a warehouse location. You will specify the item number, pack code, and Utilization % in the last frame of the program.
- Volume: the capacity is calculated as a percentage of volume, which is based on the dimensions defined for a warehouse location and the dimensions defined for the particular inventory.
- Blank. If the warehouse location belongs to a functional area, the capacity utilization option is blank and cannot be updated and in such cases, the capacity does not get calculated.

Current Utilization %

Displays the current utilization %, which is automatically generated by comparing the maximum capacity with the inventory on hand. This field is for reference only.

Preferred Pack Code

Specify the pack code that can be stored in this warehouse location. For example, if items are stored in a specific bin or on a specific pallet in this location, you can enter the pack code for that bin or pallet. This field only indicates which pack code is preferred. The system does not restrict the storage zone to the pack code that is entered.

Maximum Weight

Enter the maximum weight that can be stored in this warehouse location. For example, if this location is a shelf or rack that has a maximum load capacity, you would enter that specification in this field.

Current Weight

Displays the current weight in the warehouse location. This is an automatically generated value calculated by comparing the maximum weight with the inventory on hand. This field is for reference only.

Weight UM

Enter the unit of measure in which the maximum weight is displayed.

Enforce Weight

Select the checkbox to prevent users from transferring items/pallets that weigh more than the maximum weight.

Length

Enter the length of the warehouse location. The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Width

Optionally, enter the width of the warehouse location.The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Height

Optionally, enter the height of the warehouse location. The location dimensions are used for reference purposes only, so you do not have to enter values. If you do enter dimensions, the values are all in terms of the dimensional unit of measure that is specified in the Size UM field, below the three dimensions.

Size UM

Enter the unit of measure for all the dimensions entered in the length, height, and width fields.

Maximum Volume

This field displays the total volume of the warehouse location. The total volume is calculated based on the parameters entered in the Length, Height, and Width fields. If necessary, you can manually enter a value and overwrite the calculation.

Current Volume

Displays how much volume is currently being used in this location.

Volume UM

Enter the unit of measure for the location volume.

Enforce Volume

Select the checkbox to prevent users from transferring inventory into this location if it exceeds the maximum volume entered in the volume field.

Item Assignments Panel

Item

Enter the item number if a specific assignment for this warehouse location is required. You can leave this field blank if this warehouse location is used for general use.

If the Dedicated checkbox is selected, enter the item number that is stored in this warehouse location.

If the Capacity Utilization Option checkbox is not selected, the item number entered in the field defines the specific rules for capacity calculation.

Capacity Calculation logic works in the following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if the location is set to general use). Multiple combinations of Item Number, Pack Code/UM and Utilization % can exist.

Description

This field displays the description of the item.

Pack Code/UM

Specify the pack code or unit of measure for the item if a specific assignment for this warehouse location is required. You can leave this field blank if this warehouse location is used for general use.

If the Dedicated checkbox is selected, enter the pack code of the item that is stored in this warehouse location.

If the Capacity Utilization Option checkbox is not selected, the pack code entered in the field defines the specific rules for capacity calculation.

Capacity Calculation logic works in a following manner:

- Packs. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and Pack Code, Item itself, Pack Code itself, or blank (if the location is set to general use).
- Units. The system checks the inventory that is being transferred into warehouse locations and finds a location that has a matching combination of Item and UM, Item itself, UM itself, or blank (if the location is set to general use).Multiple combinations of Item Number, Pack Code/UM and Utilization % can exist.

Utilization %

Enter the utilization % to indicate how much space is taken by a certain Item Number, Pack Code/UM, or a combination of both. For example, if this location can only store 2 pallets (Pack Code PL01), the Utilization % should be 50% (100% / 2). If the same location can store 50 boxes (Pack Code BX01), the Utilization % should be 2% (100% / 50).

Creating a Warehouse Location Capacity

1. Go to **Warehouse Location Capacity**.
2. Click the **New** button to add a new row in the grid.
3. Complete the fields described in the Warehouse Location Capacity on page 4092 view.
4. Click **Save** to continue.

Modifying a Warehouse Location Capacity

1. Go to **Warehouse Location Capacity.**
2. Select the row of your interest and click **Edit**, or double-click.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting a Warehouse Location Capacity

1. Go to **Warehouse Location Capacity**.
2. Select the row of your interest and double-click.

3. Click the **Delete** button.
4. The system prompts you with a delete confirmation message . Click **Delete**.

Warehouse Pre-Shippers/Shippers

With **Warehouse Pre-Shippers/Shippers** you can view warehouse pre-shipper/shipper information, to determine potential picking demand based on the inventory availability and orders, and to create sales order picking request jobs and tasks to manage your inventory.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected sbased on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Picking Requests Action

Note Before starting to use Warehousing, you should confirm any existing shippers.

Note Shippers with multiple sites are not yet supported.

Note Jobs and tasks will not reflect changes made to pre-shipper/shippers after the jobs and tasks are initially created.

Note Make sure you are processing sales orders shippers first, before processing distribution order shippers.

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

Create Jobs

Select this checkbox to create Warehouse Jobs for a Pre-Shipper or Shipper.

Note If you choose to Create Warehouse Jobs, use the Create Tasks action to generate tasks for the Warehouse Jobs created in this action.

Create Jobs & Tasks

Select this checkbox to create Warehouse Jobs and Warehouse Tasks for the pre-shipper/shipper.

Note One of the checkboxes must be checked.

From Site

Enter the From Site. This is a mandatory field. If the filter in the Warehouse Pre-Shippers/Shippers browse is entered as Ship-From equals [Site], the From Site will default automatically.

From Warehouse

Enter the From Warehouse. This is a mandatory field.

From Area

Enter the From area. This is an optional field. If a From Area is entered, the area entered will be populated in the grid for all records.

Note This field is only enabled when you select the Create Job and Tasks checkbox.

Display Shipper Details

Select this checkbox to display additional details about the Pre-Shippers and Shippers in the grid.

Note This field is only visible when you select the Create Job and Tasks checkbox.

Wave

Optionally, select the checkbox and assign a Wave which will be assigned to all records in the grid. You can click on the generate wave button to create a new wave based on a predefined setup in the Number Ranges screen.

Note You can only use the Generate Wave button if there is no wave already populated in the Wave field.

Note You can also manually overwrite the wave directly in the grid for each record.

Priority

Optionally, select the checkbox and assign a priority which will be assigned to all records in the grid.

Note You can also manually overwrite the priority directly in the grid for each record.

Priority Increment

Optionally, select the checkbox and assign a priority increment which will be assigned to all records in the grid.

Note You can also manually overwrite the priority increment directly in the grid for each record.

Reason

Optionally, enter a reason which will be assigned to all records in the grid.

Note You can also manually overwrite the reason directly in the grid for each record.

Remarks

Optionally, enter remarks which will be assigned to all records in the grid.

Note You can also manually overwrite the remarks directly in the grid for each record.

To Area

Optionally, select the checkbox and enter a To Area which will be assigned to all records in the grid.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

To Storage Zone

Optionally, select the checkbox and enter a To Storage Zone which will be assigned to all records in the grid.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

To Location

Optionally, select the checkbox and enter a To Location which will be assigned to all records in the grid.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

Note You can also manually overwrite the To Location directly in the grid for each record.

Search Button

Select Search to populate the Requests panel with the Pre-Shippers/ Shippers to be picked based on the information entered in the Criteria and Options panels.

Requests Panel

Run Engine (button)

Click the Run Engine button to calculate the serials and/or loose inventory to be picked based on Warehousing setups. The Run Engine button will populate the Serial, To Site, To Warehouse, To Area, To Storage Zone, To Location, Current Utilization, From Algorithm Type/ Number, To Algorithm Type/Number, Lot/Serial, Reference, Stage, Pack Code, Pack Code, Pack Code Description, and External Serial fields in the grid.

Note The Engine will also run automatically when the Submit button is clicked.

Requests (Checkbox)

Specify which Pre-Shippers/Shippers will be picked by selecting the corresponding checkbox.

Pre-Shipper/Shipper

Displays the Pre-Shipper/Shipper.

Type

Displays the type of order being picked.

Note This field is only available when Create Jobs & Tasks and display shipper details are both selected.

Item

Displays the item being picked. This can be an item in a pack or a loose item. If there are multiple items in the pack, this field is blank.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

Description

Displays the item description. If there are multiple items in the pack, this field is blank.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

Order

Displays the Order associated with the Pre-Shipper/Shipper.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

Line

Displays the Order Line associated with the Pre-Shipper/Shipper.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

Requisition

Displays the requisition order number.

Note This field is only available when Create Jobs & Tasks and display shipper details are both selected.

Total Quantity

Displays the total quantity for the Item/Order/Line from the Pre-Shipper/Shipper.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

Serial

Displays the master serial which will be picked. If the row contains loose inventory, this field is blank.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

Ship-To

Displays the ship-to from the pre-shipper/shipper.

Customer Name

Displays the customer name from the pre-shipper/shipper.

Carrier

Displays the first carrier from the pre-shipper/shipper.

Ship Via

Displays the ship via from the pre-shipper/shipper.

From Site

Displays the site entered in the Options panel.

From Warehouse

Displays the warehouse entered in the Options panel.

From Area

Displays the area for the inventory to be picked

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

From Storage Zone

Displays the storage zone for the inventory to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

From Location

Displays the location for the inventory to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

To Site

Displays the To Site. If the To Location is populated, this will be calculated based on the To Location. If the To Location is not populated, this will automatically be calculated when the engine is run.

Note This field is only available when Create Jobs & Tasks and Display Shipper Details are both selected.

To Warehouse

Displays the To Warehouse. If the To Location is populated, this will be calculated based on the To Location. If the To Location is not populated, this will automatically be calculated when the engine is run.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

To Area

Displays the To Area. If the To Location is populated, this will be calculated based on the To Location. If the To Location is not populated, this will automatically be calculated when the engine is run.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

To Storage Zone

Displays the To Storage Zone. If the To Location is populated, this will be calculated based on the To Location. If the To Location is not populated, this will automatically be calculated when the engine is run.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

To Location

Displays the To Location. If the To Location is not populated, this will automatically be calculated when the engine is run. This field can be manually updated in the grid to override the To Location calculated by the engine.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

Current Utilization %

Displays the current To Location utilization.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

From Algorithm Type/Number

Displays the algorithm type/number used by the engine.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

To Algorithm Type/Number

Displays the algorithm type/number used by the engine.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Lot/Serial

Displays the lot/serial to be picked. If the pack is a mixed pack, this field is blank.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Reference

Displays the reference.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Stage

Displays the stage of the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Pack Code

Displays the pack code of the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Pack Code Description

Displays the pack code description for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

External Serial

Displays the external serial for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Origin Code

Displays the origin code for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Commision Date

Displays the commission date for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Shipper Details checkboxes are both selected.

Using the Picking Requests action:

Use the **Warehouse Pre-Shippers/Shippers**> **Picking Requests** action to create Warehouse Jobs and Warehouse Tasks to pick both loose and serialized inventory and move it to designated warehouse locations.

Follow these steps to use the Picking Requests action:

1. In **Warehouse Pre-Shippers/Shippers**, use the Search and filter for a range of pre-shippers/shippers.
2. Select Picking Requests from the Action menu. The Picking Requests window opens.
3. In the Options panel, select the checkbox for Create Jobs or the one for Create Jobs and Tasks.
4. Enter the required information in the Options panel.
5. Select Search to populate the Requests grid with a list of pre-shippers/shippers based on the Search Criteria and the settings in the Options panel.
6. In the Requests grid, select the pre-shippers/shippers by selecting the checkboxes.
7. Select Submit to complete the action.

Warehouse Production Picklists

This browse displays all detailed information associated with production picklists, such as:

- Picklist information. It displays the Picklist Number, Picklist Seq, and Picklist Type fields.
- Production order information. It displays the associated Production Order, Production Order ID, Order Type, BOM Component Pick Policy, and Issue Date fields.
- Item information. It displays detailed information about the item to be picked such as the Item Number, Site, Location, Lot/Serial, and Reference fields, and whether the item lot is conforming or non-conforming.
- Transfer information. It displays information about where the picked inventory will be transferred to such as the Production Line, Work Center, Operation, and Destination Location fields.
- Picking status information. It displays the Quantity Open, Quantity Picked, and Quantity Short fields.

  Note The browse only displays picklists that are not linked to warehouse jobs, and that have an open quantity or shortage quantity.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected sbased on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Picking Requests Action

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

Create Jobs

Select this checkbox to create warehouse jobs for the picklist.

Note If you choose to Create Warehouse Jobs, use the Create Tasks action to generate tasks for the Warehouse Jobs created in this action.

Create Jobs & Tasks

Select this checkbox to create warehouse jobs and warehouse tasks for the picklist.

Note One of the checkboxes must be checked.

From Site

Enter the From Site. This is a mandatory field. If the filter in the Warehouse Production Picklists browse is entered as Site equals [Site], the From Site will default automatically.

From Warehouse

Enter the From Warehouse. This is a mandatory field. The warehouse entered will be populated in the grid for all records.

From Area

Enter the from area. This is an optional field. If a From Area is entered, the area entered will be populated in the grid for all records.

Note This field is only enabled when you select the Create Job and Tasks checkbox.

Display Picklist Details

Select this checkbox to display additional details about the picklist in the Requests grid.

Note This field is only visible when you select the Create Job and Tasks checkbox.

Wave

Optionally, select the checkbox and assign a Wave which will be assigned to all records in the grid. You can click on the Generate Wave button to create a new wave based on a predefined setup in the Number Ranges screen.

Note You can only use the Generate Wave button if there is no wave already populated in the Wave field.

Note You can also manually overwrite the wave directly in the grid for each record.

Priority

Optionally, select the checkbox and assign a priority which will be assigned to all records in the grid.

Note You can also manually overwrite the priority directly in the grid for each record.

Priority Increment

Optionally, select the checkbox and assign a priority increment which will be assigned to all records in the grid.

Note You can also manually overwrite the priority increment directly in the grid for each record.

Reason

Optionally, enter a reason which will be assigned to all records in the grid.

Note You can also manually overwrite the reason directly in the grid for each record.

Remarks

Optionally, enter remarks that will be assigned to all records in the grid.

Note You can also manually overwrite the remarks directly in the grid for each record.

Search

Select Search to populate the Tasks panel with the tasks to be confirmed based on the information entered in the Criteria and Options panels.

Note Only components with a pick policy of Transfer are displayed in the grid.

Requests Panel

Run Engine

Click the Run Engine button to populate the grid based on the warehousing setup. The Run Engine button populates the Serial, From Area, From Storage Zone, From Location, From Algorithm Type/Number, To Algorithm Type/Number, Lot/Serial, Reference, Stage, Pack Code, Pack Code Description, Current Utilization, External Serial, and Commission Date fields in the grid.

Note The Engine runs automatically when you select the Submit button.

Requests Checkbox

Specify which picklists to include by selecting the corresponding checkbox.

Note For picklists with multiple lines in the grid, selecting any single record automatically selects all other lines for that picklist. If all records for a picklist were previously selected, unselecting one automatically unselects all remaining associated lines.

Picklist

Displays the picklist.

Picklists Seq

Displays the picklist sequence.

Picklist Type

Displays the picklist type.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Production Order

Displays the production order associated with the picklist.

ID

Displays the production order ID associated with the picklist.

Item

Displays the item from the picklist. It can be an item in a pack or a loose item.

Note This field is only available when the Create Jobs checkbox is selected, or both the Create Jobs & Tasks and Display Picklist Details checkboxes are selected.

Description

Displays the item description.

Note This field is only available when the Create Jobs checkbox is selected, or both the Create Jobs & Tasks and Display Picklist Details checkboxes are selected.

Production Line

Displays the production line associated with the production order.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Operation

Displays the operation number associated with the production order.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Quantity Open

Displays the quantity open from the picklist.

Note This field is only available when the Create Jobs checkbox is selected, or both the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Serial

Displays the master serial which will be picked. If the row contains loose inventory, this field is blank.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

From Site

Displays the site entered in the Options panel.

From Warehouse

Displays the warehouse entered in the Options panel.

From Area

Displays the area entered in the Options panel.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

From Storage Zone

Displays the storage zone for the inventory to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

From Location

Displays the location for the inventory to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

To Site

Displays the To Site based on the Destination Location.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

To Warehouse

Displays the To Warehouse based on the Destination Location.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

To Area

Displays the To Area based on the Destination Location.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

To Storage Zone

Displays the To Storage Zone based on the Destination Location.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

Destination Location

The destination location of the inventory, from the picklist.

Note This field is only available when the Create Jobs & Tasks checkbox is selected.

Current Utilization

Displays the current Destination Location utilization.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

From Algorithm Type/Number

Displays the algorithm type/number used by the engine.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

To Algorithm Type/Number

Displays the algorithm type/number used by the engine.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Lot/Serial

Displays the lot/serial from the picklist.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Reference

Displays the reference.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Stage

Displays the stage of the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Pack Code

Displays the pack code of the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Pack Code Description

Displays the pack code description for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

External Serial

Displays the external serial for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Origin Code

Displays the origin code for the serial to be picked.

Note This field is only available when both the Create Jobs & Tasks and Display Picklist Details checkboxes are selected.

Commision Date

Displays the commission date for the serial to be picked.

Note This field is only available when the Create Jobs & Tasks and Display Picklist Details checkboxes are both selected.

Using the Picking Requests action:

Use the **Warehouse Production Picklists**> **Picking Requests** action to create picking request jobs and tasks for production order picklists.

Follow these steps to use the Picking Requests action:

1. In **Warehouse Production Picklists**, use the Search and filter for a range of picklists.
2. Select Picking Requests from the Action menu. The Picking Requests window opens.
3. In the Options panel, select the checkbox for Create Jobs or the one for Create Jobs and Tasks.
4. Enter the required information in the Options panel.
5. Select Search to populate the Requests grid with a list of picklists based on the search criteria and the settings in the Options panel.
6. In the Requests grid, select the picklists by selecting the checkboxes.
7. Click Submit to complete the action.

Warehouse Serials

The **Warehouse Serials** screen allows you to access detailed information on serialized inventory linked to a warehouse, in order to make decisions as to how to manage inventory. This browse is similar to the **Serials** browse, but with the addition of the warehouse, storage zone, work zone, and warehouse location information.

Drill-Down Links Icon

The Drill-Down Links icon provides you with links to browses and reports that, when selected, are displayed in the **Warehouse Serials** window. Optionally, you can drill down into the associated browse or report to view additional data, filtered for the associated serial.

- **Browses**
  - Inventory Detail. Select to view the **Inventory Detail** browse. Use this browse to review or modify the regulatory attributes for items held in inventory at a particular site and location.
  - Inventory Transactions. Select to view the **Inventory Transactions** browse, which displays detailed inventory transaction history records ordered by transaction number.
  - Item Descriptions. Select to view the item descriptions associated with the serial.
  - Lot Trace Workbench. Select the open Lot Trace Workbench, which is a powerful integrated data analysis browse that allows you to track materials by lot, item number, or serial number, backward and forward through the production process. For more information about using Lot Trace Workbench, see Lot Trace Workbench.
  - Order Information. Select this option to view any associated sales order information.
  - Serial History. Select **Serial History** to view the transactions that were generated when the serial was processed through the system.
  - View Downstream Pack. When a master pack serial is selected, the **View Downstream Pack** browse displays all the serials that are contained in the pack.
  - View Upstream Pack. When you select a serial, the **View Upstream Pack** browse displays all the serials up to the master pack.
- **Reports**
  - Serialized Inventory. Select the **Serialized Inventory** report to view the serial stage and inventory information, such as quantity on hand, quantity in pack, and loose quantity.

Warehouse Serial History

Use this browse to display in the serial history transactions only those where the combination of Site/Location is assigned to a Warehouse Location. When a serial history transaction has a Site/Location not assigned to a Warehouse Location, the serial history transaction must not be displayed in the browse.

Warehouse Serialized Inventory

It combines the Warehouse Inventory Detail and Warehouse Serials browses so that you can view all inventory information for an item in one screen, including the Warehouse, Storage Zone, Work Zone, and Warehouse Location fields. You can easily determine how much inventory is packaged and how much is loose, as well as the weight information for both the serialized and loose inventory.

Note This browse only includes inventory if the inventory site or location is linked to a warehouse.

Warehouse Tasks

Warehouse tasks are the lower-level activities that occur in a warehouse. These tasks cover an individual action that must take place to move inventory appropriately. These tasks can be categorized into different types, each describing a specific activity. The types align with the duties of material handlers and can be prioritized and assigned to users for efficient completion.

You can create **Warehouse Tasks** using the Requests action on different screens, such as **Putaway Requests** action in **Warehouse Inventory Detail**. After the warehouse tasks are created, they can be modified using the edit button for an individual task. If you want to modify a set of records, use the **Bulk Edit** action.

Note You can only modify warehouse tasks with **New** status.

Warehouse Tasks View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the current warehouse task, including the Job, Task, Task Type and description, and the Status. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Job

Displays the job number retrieved from the Job Master.

Task

Displays the task number assigned when the task was created.

Priority

Enter a priority for the task.

Status

Select a status from the drop-down menu. This is a mandatory field.

Assigned User

Assign a user for the task.

Wave

Enter a wave for the task.

Reason

Enter a reason for the task.

Remarks

Enter remarks for the task.

Job Line

Displays the job line for the task.

Sequence

Displays the sequence assigned to the task.

Priority Increment

Enter the priority increment for the task.

Material Routing

Displays the material routing assigned to the task.

Hard Assign

Select the checkbox to assign a fixed user.

Task Type

Enter a task type for the task. This is a mandatory field.

Transaction Type

Displays the transaction type assigned to the task

Task Panel

Expected Quantity

Displays the expected quantity for the task.

From Warehouse

Displays the From Warehouse.

From Site

Displays the From Site

From Storage Zone

Displays the From Storage Zone.

From Work Zone

Displays the From Work Zone.

From Location

Displays the From Location

From Item

Displays the From Item. If there are multiple items in the pack, this field is blank.

From Lot/Serial

Displays the From Lot/Serial. If the pack is a mixed pack, this field is blank.

From Reference

Displays the From Reference. If the pack is a mixed pack, this field is blank.

From Serial

Displays the From Serial number.

From Pack Code

Displays the pack code of the From Serial.

Confirmed Quantity

Displays the confirmed quantity for the task.

To Warehouse

Displays the To Warehouse.

To Site

Displays the To Site.

To Storage Zone

Displays the To Storage Zone.

To Work Zone

Displays the To Work Zone.

To Location

Enter the Final Location for the task. This is a mandatory field.

Note When entering the To Location, the To Work Zone, and To Storage Zone fields will be populated accordingly.

To Item

Displays the To Item. If there are multiple items in the pack, this field is blank.

To Lot/Serial

Displays the To Lot/Serial. If the pack is a mixed pack, this field is blank.

To Reference

Displays the To Reference. If the pack is a mixed pack, this field is blank.

To Serial

Displays the To Serial number.

To Pack Code

Displays the pack code of the To Serial.

Creating Warehouse Tasks

1. Go to **Warehouse Tasks**.
2. Click **New** to open the view
3. Complete the fields described in Warehouse Tasks View on page 4119.
4. Click **Save** to create the new record.

Modifying Warehouse Tasks

1. Go to **Warehouse Tasks**.
2. Select the record of interest, and click **Edit** or double-click.
3. Edit the required or applicable information. The editable fields can be consulted in Warehouse Tasks View on page 4119.
4. Click **Save** to update the warehouse task.

   Note To modify several Warehouse Tasks, use the **Warehouse Tasks Bulk Edit** action.

   Note You can only modify warehouse tasks with **New** status.

Deleting Warehouse Tasks

1. Go to **Warehouse Tasks**.
2. Click **Edit** or double-click the record you want to delete.
3. Click **Delete** in the view.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected sbased on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Bulk Edit Action

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the current warehouse task, including the From Site and From Warehouse. These fields are read-only and stay in view even when you scroll down the page.

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

The Options Panel allows users to specify changes to be applied to all records in the grid after it is populated.

From Site

Enter the From Site. This is a mandatory field. If you enter a From Site in the filter of the Warehouse Tasks browse, the field will default automatically.

From Warehouse

Enter the From Warehouse. This is a mandatory field. If you enter a From Warehouse in the filter of the Warehouse Tasks browse, the field will default automatically.

Status

Optionally, select the checkbox and assign the *Canceled* status, which will be assigned to all records in the grid.

Note You can also manually overwrite the status directly in the grid for each record.

Task Type

Optionally, select the checkbox and assign a task type which will be assigned to all records in the grid.

Note You can also manually overwrite the task type directly in the grid for each record

Wave

Optionally, select the checkbox and assign a wave which will be assigned to all records in the grid.

Note You can also manually overwrite the wave directly in the grid for each record.

Priority

Optionally, select the checkbox and assign a priority which will be assigned to all records in the grid.

Note You can also manually overwrite the priority directly in the grid for each record.

Priority Increment

Optionally, select the checkbox and assign a priority increment which will be assigned to all records in the grid.

Note You can also manually overwrite the priority increment directly in the grid for each record.

Assigned User

Optionally, select the checkbox and assign an assigned user which will be assigned to all records in the grid.

Note You can also manually overwrite the Assigned User directly in the grid for each record.

To Location

Optionally, select the checkbox and enter a To Location which will be assigned to all records in the grid.

Note You can also manually overwrite the To Location directly in the grid for each record.

Reason

Optionally, enter a reason which will be assigned to all records in the grid.

Note You can also manually overwrite the reason directly in the grid for each record.

Remarks

Optionally, enter remarks which will be assigned to all records in the grid.

Note You can also manually overwrite the remarks directly in the grid for each record.

Search Button

Select Search to populate the Tasks panel with the tasks to be confirmed based on the information entered in the Criteria and Options panels.

Reset Button

Select Reset to blank all the fields in the Options panel.

Tasks Panel

Select Checkbox

Specify which tasks will be edited after the Submit button is clicked by selecting the corresponding checkbox.

Job

Displays the warehouse job associated with the task. This is a read-only field.

Job Line

Displays the warehouse job line. This is a read-only field.

Task

Displays the warehouse task. This is a read-only field.

Task Sequence

Displays the warehouse task sequence. This is a read-only field.

Task Type

Assign a task type. This is a mandatory field. If you enter a task type in the Options panel , the field defaults to that value.

Current Status

Displays the current status of the task. This is a read-only field.

New Status

Optionally, assign a new status. If you enter a status in the Options panel, the field defaults to that value.

Wave

Optionally, assign a wave. If you enter a wave in the Options panel, the field defaults to that value.

Priority

Optionally, assign the priority. If you enter a priority in the Options panel, the field defaults to that value.

Priority Increment

Optionally, assign the priority increment. If you enter a priority increment in the Options panel, the field defaults to that value.

Material Routing

Displays the material routing for the task. This is a read-only field.

Hard Assign

Select this checkbox when a specific Task requires completion by a specific user, defined in the Assigned User field.

Assigned User

Optionally, enter an assigned user. If you enter an assigned user in the Options panel , the field defaults to that value.

Reason

Optionally, assign a reason. If you enter a reason in the Options panel , the field defaults to that value.

Remarks

Optionally, assign remarks. If you enter remarks in the Options panel, the field defaults to that value.

Expected Quantity

Displays the expected quantity for the task. This is a read-only field.

Confirmed Quantity

Displays the confirmed quantity for the task. This is a read-only field.

From Location

Displays the From Location for the task. This is a read-only field.

To Location

Assign the To Location. This is a mandatory field. If you enter a To Location in the Options panel, the field defaults to that value.

Using the Bulk Edit action:

To use the Bulk Edit action, perform the following steps:

1. In **Warehouse Tasks**, use Search and filter for a range of tasks.
2. In the Action menu, select the Bulk Edit Action. The Bulk Edit window opens.
3. In the Options panel, enter the required information.
4. Select Search to populate the Tasks grid with a list of warehouse tasks based on the Search Criteria and the settings in the Options panel.
5. In the Tasks grid, select the warehouse tasks you want to update by selecting the corresponding checkboxes, and edit the required information.
6. Select Submit to complete the action.

Confirm Tasks Action

Note When you confirm a putaway task with a stage-in location, the system automatically creates a new task to move the inventory to the final location.

Criteria Panel

Search Criteria

Displays the search data entered in the browse filter.

Options Panel

Task Type

Enter the task type. This is an optional field. If you enter a task type in the filter of the Warehouse Tasks browse with the operator **equals**, the field defaults automatically.

Transaction Type

Enter the transaction type. This is an optional field.

From Warehouse

Enter the From Warehouse. This is a mandatory field. If you enter a From Warehouse in the filter of the Warehouse Tasks browse with the operator equals, the field will default automatically.

From Site

Enter the From Site. This is a mandatory field. If you enter a From Site in the filter of the Warehouse Tasks browse with the operator **equals**, the field will default automatically.

Effective Date

Enter the effective date when the action will be applied. The default is the system date.

Search Button

Select Search to populate the Tasks panel with the tasks to be confirmed based on the information entered in the Criteria and Options panels.

Tasks Panel

Select Checkbox

Specify which tasks will be edited after the Submit button is clicked by selecting the corresponding checkbox.

Job

Displays the warehouse job associated with the task.

Job Line

Displays the warehouse job line.

Task

Displays the warehouse task.

Task Type

Displays a task type. If you enter a task type in the Options panel, the field defaults to that value.

Status

Displays the current status of the task.

Serial

Displays the master serial associated with the task. If the row contains loose inventory, this field is blank.

Pack Code

Displays the pack code of the serial associated with the task. If the row contains loose inventory, this field is blank.

Pack Code Description

Displays the description of the pack code. If the row contains loose inventory, this field is blank.

Confirmed Quantity

Displays the confirmed quantity of inventory for the task.

UM

Displays the UM from the item in the task.

Item

Displays the item associated with the task. If there are multiple items in the pack, this field is blank.

Description

Displays the item description. If there are multiple items in the pack, this field is blank.

From Lot/Serial

Displays the From Lot/serial for the inventory. If the pack is a mixed pack, this field is blank.

From Reference

Displays the From Reference. If there are multiple items in the pack, this field is blank.

From Location

Displays the From location for the inventory.

To Lot/Serial

Displays the To Lot/serial. If the pack is a mixed pack, this field is blank.

To Reference

Displays the To Reference. If there are multiple items in the pack, this field is blank.

To Location

Displays the To Location. If there are multiple items in the pack, this field is blank.

External Serial

Displays the external serial for the serial associated with the task.

Origin Code

Displays the origin code for the serial associated with the task.

Assigned User

Displays the assigned user for the task.

Order

Displays the order associated with the job.

Line

Displays the order line associated with the job.

Sequence

Displays the task sequence.

Using the Confirm Tasks action:

To use the Confirm Tasks Bulk action, perform the following steps:

1. In **Warehouse Tasks**, use Search and filter for a range of tasks.
2. On the Action menu, select the Confirm Tasks Bulk Action. The Confirm Tasks Bulk window opens.
3. On the Options panel, enter the required information.
4. Select Search to populate the Tasks grid with a list of warehouse tasks based on the Search Criteria and the settings on the Options panel.
5. In the Tasks grid, pick the warehouse tasks you want to confirm by selecting the corresponding checkboxes.
6. Select Submit to complete the action.

Warehouse Task Types

Warehouse Task Types allows you to create and update the task types performed in a warehouse.

Warehouse Task Types View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the selected warehouse task type. This panel includes the following information: Task Type/Description and Confirmation Mode. These fields are read-only and stay in view when scrolling down the page.

Main Panel

The Main panel allows you to specify and manage the basic information about a warehouse task type and select whether the Confirmation Mode is automatic or manual.

Task Type

This field displays the task type name. Enter a task type name when creating a new task type for example, TaskType_3. This field is mandatory.

Description

You can, optionally, enter a description of the task type.

Confirmation Code

Select whether the confirmation code is Auto or Manual from the drop-down menu. This field is mandatory.

Creating a Warehouse Task Type

1. Go to **Warehouse Task Types**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Task Types View**.
4. Click Save to create the new record.

Modifying Warehouse Task Types

1. Go to **Warehouse Task Types**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Task Types View.**
4. Click Save to update the record.

Deleting a Warehouse Task Type

1. Go to **Warehouse Task Types**.
2. Click Edit or double-click the record you want to delete.

3. Click Delete to remove the record.

Warehouse Task Type Assignments

After creating **Warehouse Tasks** and **Warehouse Tasks Types**, you can use **Warehouse Task Type Assignments** to establish a sequence of task types to define your preferred order for queuing, beginning with the most favored task.

Warehouse Task Type Assignments View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the warehouse task type assignment you are working on, including User ID and Description. These fields are read-only and stay in view when scrolling down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a warehouse task type assignment. The panel contains the following field:

User ID

Enter the ID or search for active users. This field is mandatory.

Assignments Panel

The assignments panel grid displays the queue order for each task type. This grid allows you to create, modify, or delete queue assignments and includes the Queue, Sequence, Task Type, and Confirmation Mode columns.

Queue

Tasks are grouped in queues, with the lowest number having priority. Enter the queue number to which you want to assign the task. You can enter up to 2 digits in the field. This field is mandatory.

Sequence

Tasks are grouped within queues by sequence, with the lowest number having priority. Enter the number of the queue sequence to which you want to assign the task. You can enter up to 3 digits in the field. This field is mandatory.

Task Type

Enter the name of the warehouse task type. This field is mandatory.

Note If you enter a task type that is already assigned to the same User ID, when attempting to save or upon leaving the field, the system notifies you the combination already exists.

Confirmation Mode

Select whether the confirmation mode is Auto or Manual from the drop-down menu. With Auto the movement confirmation is performed

automatically, and with Manual you must confirm the task manually. This field is mandatory.

Creating a Warehouse Task Type Assignment

1. Go to **Warehouse Task Type Assignments**.
2. Click New to open the view.
3. Complete the fields described in **Warehouse Task Type Assignments View**.
4. Click Save to create the new record.

Modifying Warehouse Task Type Assignments

1. Go to **Warehouse Task Type Assignments**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Warehouse Task Type Assignments View.**
4. Click Save to update the record.

Deleting a Warehouse Task Type Assignment

1. Go to **Warehouse Task Type Assignments**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse Task Delete & Archive

The system does not automatically delete historical information at period or year-end. You can delete this information as frequently or infrequently as you prefer. How often you should run this function depends on how long you need to retain historical information in your database. Most companies keep historical data for at least one year or longer, depending on disk space availability.

You should run this function twice. First, run it with **Delete** set to No and review the report. Then, run it with **Delete** set to Yes.

When you set **Delete** to Yes, task records that satisfy the selection criteria are deleted from the database. If you set **Archive** to Yes, deleted data is copied to an ASCII file that can be reloaded using **Archive File Reload**. Otherwise, deleted data cannot be recovered.

When Archive is Yes, selected data is stored in a file named Whsetask_YYYYMMDD where Whsetask is the record type and YYYYMMDD is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran delete & archive the same day, the system adds the additional archived records to the end of the file.

Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Note Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, use **Users** to temporarily

change your country code to match that of the user who archived the data.

Warehouse Task Delete & Archive View

Settings Panel

The Settings panel includes sub-panels for Format, Date Display, and Decimal Display settings. For more information, see Reports on page 296.

Filter Panel

The Filter panel contains the criteria used to filter the data in the report. The criteria are explained below:

Site

Enter a range of sites associated with the tasks that will be deleted or archived.

Warehouse

Enter a range of warehouses associated with the tasks that will be deleted or archived.

Task

Enter a range of tasks that will be deleted or archived.

Status

Select the status of the warehouse task.

- Canceled: The task was canceled and it was moved to its history records.
- Completed: The task was completed by the user. All requirements existing in the task details have been performed, and it is moved to its history records.
- Canceled & Completed: The task was canceled and completed by the user and it was moved to its history records.

Created Date

Enter a range of created dates associated with the tasks that will be deleted or archived.

Delete

Indicate to delete selected records or generate a report only.

- No: The selected records are not deleted. A report is generated listing the selected records. By default, this option is selected.

- Yes: The selected records are deleted from your database and listed in a report.

If you set **Archive** to Yes when **Delete** is Yes, the selected records are copied to an ASCII file before deletion. Use **Archive File Reload** to reload the data, if needed.

Note It is recommended to run this function twice. First, run it with **Delete** set to No and review the report. Then, run it with **Delete**set to Yes.

Archive

Indicate whether to archive the selected records.

- No: The selected records are not copied to an ASCII file. By default, this option is selected.
- Yes: The selected records are copied to an ASCII file. The system creates a file name in the following format: xxYYMMDD.hst, where xx identifies the module code or record type and YYMMDD is the file creation date. If this file does not exist, it is created. If it does exist, records are appended to the end.

Archive File

The system displays the name of the archive file. This field is displayed only.

Click **Run** to generate the report.

Warehouse Task History

Use this browse to view the historical records of tasks and tasks details.

Warehouse Transaction Types

Warehouse Transaction Types defines the types of inventory transactions that are related to specific requests and orders, such as:

Request Type	Transaction Type	Definition
Picking Request	PICK-SO	Picking for Sales Orders/Shippers.
Picking Request	PICK-DO	Picking for Distribution Orders.
Putaway Request	PUT-TR	Inventory Putaway.
Replenishment Request	PICK-RE	Replenishment by Min-Max Points and Replenishment Point.
Manual Replenishment Request	PICK-RE	Replenishment Request is entered manually.

You can use this function to enhance standard transaction types by customizing how the system processes these transactions to meet your specific warehouse requirements. Additionally, you can use this view to create new transaction types for handling specialized inventory transactions not covered by the standard types.

Warehouse Transaction Types View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the warehouse transaction type you are working on, including Transaction Type, and Auto and Pick Control Level Storage Zone. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Transaction Type

Enter a name that uniquely identifies the new transaction type. This is a mandatory field.

Description

Enter a description for the transaction type.

Auto

This checkbox specifies how processes defined by material routings are initiated. If checked, the next process in the material routing sequence is started automatically as soon as the previous process is complete; otherwise, if the checkbox is cleared, the next process

will start when you manually select it for processing with an engine workfile.

Standard Type

This field is read only and cannot be modified. The checkbox is selected when the transaction type entered is one of the standard transaction type provided in the system. If cleared, the transaction type is custom and user-defined.

Pick Control Level Storage

If you select this checkbox, the picking details are controlled by the settings at the storage zone level.

Overpicking

If you select this checkbox, you can pick more stock in this particular type of transaction. It is cleared, or set to not allowed, by default.

Creating Warehouse Transaction Types

1. Go to **Warehouse Transaction Types**.
2. Click **New** to open the view
3. Complete the fields described in **Warehouse Transaction Types View**.
4. Click **Save** to create the new record.

Modifying Warehouse Transaction Types

1. Go to **Warehouse Transaction Types**.
2. Select the record of interest, and click **Edit** or double-click.
3. Edit the required or applicable information. The editable fields can be consulted in **Warehouse Transaction Types View.**
4. Click **Save** to update the warehouse transaction type.

Deleting Warehouse Transaction Types

1. Go to **Warehouse Transaction Types**.
2. Click **Edit** or double-click the record you want to delete.
3. Click **Delete** in the view.

   Note If a transaction type is already linked to an algorithm in Algorithm Assignments, or is used in a Material Routing Assignment, you cannot delete the record.

Warehouse User Assignments

Warehouse User Assignments allows you to create and define user groups in the warehouse, assign users who have common functions, and assign a default printer for the group to use.

Warehouse user assignments are defined groups of users assigned to perform common functions and that are assigned to specific work zones. Note that this browse is related to the Warehouse User Groups browse.

The work zones are sections of the warehouse that share activities by labor or devices required to manage activities. The work zones can be independent from areas or storage zones because they are related to the type of workers or the type of devices that are required to handle materials in the work zone. When you define a work zone, you can assign a specific group of users to a specific zone so the users are not able to see any activities from other spaces.

Warehouse User Assignments View

Summary Panel

The summary panel displays the key data of the warehouse user work zone assignment you are working on, including the Warehouse and User Group fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel contains the parameters that allows you to assign a user group to a work zone and specify a warehouse and a default printer to a user group. Note that this panel is related to the Warehouse User Groups browse.

Warehouse

Enter the warehouse of your preference.This is a mandatory field.

User Group

Enter the name of the user group you want to assign to a work zone. A user group can be assigned to multiple work zones. For example, this allows different people to perform put-away and picking on the same location.This is a mandatory field.

Description

Optionally, enter a brief description of the warehouse user work zone.

Default Printer

Specify the default printer you want to assign. You can assign only one printer to a user group.

User Assignments Panel

The user assignments panel contains the parameters to configure a user and link it to a user group. Note that this panel is related to the Warehouse User Groups browse.

User

Enter the user you want to assign to a warehouse user assignment. You can only assign one user for each warehouse and user group combination. This field is mandatory.

User Name

This is a read-only field, displaying the user name.

Enabled

This is a read only field. Indicates whether the user has access to the warehouse.

Active

This is a read only field. Indicates if the user is an active record.

Work Zone Assignments Panel

The work zone assignments panel contains the parameters to configure a work zone in the corresponding warehouse. Note that this panel is related to the Warehouse User Groups browse.

Work Zone

This is a mandatory field, enter the name of the work zone to which the warehouse location belongs.

Description

This is a read only field, displaying the description of the work zone.

Device Type

This is a read only field, displaying the code of the device that you are using in this work zone.

Creating Warehouse User Assignments

1. Go to **Warehouse User Assignment**.
2. Click **New** in the default browse to add a new row in the grid..
3. Complete the fields described in the Warehouse User Assignments on page 4140 view.
4. Click **Save**.

Modifying Warehouse User Assignments

1. Go to the **Warehouse User Assignment**.
2. Select the row to modify, then click **Edit.** .
3. Edit the applicable information.

4. Click **Save** to update the warehouse user assignment. The system displays a message stating that the edited item is saved successfully.

Deleting Warehouse User Assignments

1. Go to **Warehouse User Assignment**.
2. Select the row to delete, then double-click the row.
3. Click the **Delete** button above the grid.
4. The system prompts a delete confirmation message. Click **Delete**.

Warehouse User Groups

Warehouse User Groups allows you to create and define user groups in the warehouse, assign users who have common functions, and assign a default printer for the group to use.

Warehouse user groups are defined groups of users assigned to perform common functions and that are assigned to specific work zones.

The work zones are sections of the warehouse that share activities by labor or devices required to manage activities. The work zones can be independent from areas or storage zones because they are related to the type of workers or the type of devices that are required to handle materials in the work zone. When you define a work zone, you can assign a specific group of users to a specific zone so the users are not able to see any activities from other spaces.

Warehouse User Groups View

Summary Panel

The summary panel displays the key data of the warehouse user groups you are working on, including the Warehouse and User Group fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of the warehouse user group. The panel contains the following fields:

Warehouse

This is a mandatory field. Enter the warehouse to define the user group.

User Group

This is a mandatory field. Enter the name of the user group you want to create.

Description

Optionally, enter a brief description of the work zone.

Default Printer

Specify the default printer you want to assign. You can assign only one printer to a user group.

User Assignments Panel

User ID

This field is mandatory. Enter the user you want to assign to a warehouse user group. You can only assign one user for each warehouse and user group combination.

User Name

This is a read-only field. The user name is displayed on the right side of the user ID.

Enabled

This checkbox is a read-only field. Indicates whether the user has access to the warehouse.

Active

This checkbox is a read-only field. Indicates if the user has an active record.

Work Zone Assignments Panel

Work Zone

This is a mandatory field. Select the work zone. If required, set up a work zone following these steps:

1. Click **New** on the Work Zone Assignments grid.
2. Select the warehouse you previously selected.
3. In the Work Zone field, enter a name for the work zone.
4. Optionally enter the following information:
   - Description
   - Device Type
   - Transporter Type

Note If you enter an invalid Work Zone/Warehouse combination or leave it blank, when leaving the field or attempting to save the changes, the system notifies you the combination does not exist or the blank field is not allowed.

Description

This is a read only field when you select the warehouse shows the description of the warehouse.

Device Type

This is a read only field when you when selecting the warehouse shows the device type information.

Creating Warehouse User Groups

1. Go to **Warehouse User Group**.
2. Click **New** in the default browse to add a new row in the grid..
3. Complete the fields described in the Creating Warehouse User Groups on page 4144 view.
4. Click **Save** .

Modifying Warehouse User Groups

1. Go to the **Warehouse User Groups** browse.
2. Select the row to modify, then click **Edit.** .
3. Edit the applicable information.
4. Click **Save** to update the warehouse user group. The system displays a message stating that the edited item is saved successfully.

Deleting Warehouse User Groups

1. Go to the **Warehouse User Groups**.
2. Select the row to delete, then double-click the row.
3. Click the **Delete** button above the grid.
4. The system prompts a delete confirmation message. Click **Delete**.

Work Zones

Work zones define sections of the warehouse that share common activities by labor or devices required to manage activities.

Work zones are warehouse sections that share common activities by labor or devices. Work zones are grouped according to skills and devices required to handle materials in the work zone; due to this characteristic, work zones can be independent from areas or storage zones.

Work Zones View

Summary

The Summary panel is located between the menu and the navigation bar. It displays the key data of the storage zone you selected, including Warehouse / Description and Work Zone / Description. These fields are read-only and stay in view even when you scroll down the page.

Main

The Main panel allows you to specify and manage the basic information of a work zone. The panel contains the following fields:

Warehouse

Look up or enter the ID of the warehouse in which you want to define the work zone. The description of the warehouse is displayed on the right side of the field. This is a mandatory field.

Work Zone

Enter a work zone ID for example, WO-ZO2.

Description

You can optionally enter a brief description of the work zone.

Device Type

Enter the device type.

Note You can assign multiple devices to a work zone and the same device type to multiple work zones.

Transporter Type

Enter or search the transporter type on the Generalized Code lookup.

- To set up new transporter types click **New** in the Generalized Code window and enter a value, such as Forklift or Pallet Jack.

Creating a Work Zone

1. Go to **Work Zones**.
2. Click New to open the view.
3. Complete the fields described in **Work Zones View**.
4. Click Save to create the new record.

Modifying a Work Zone

1. Go to **Work Zones**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Work Zones view.**
4. Click Save to update the record.

Deleting a Work Zone

1. Go to **Work Zone**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Warehouse User Work Zone Assignments

Warehouse user work zone assignments allows you to assign a user group to a work zone. Once user groups are assigned to a work zone, the users can see demand in the groups of locations (work zones) they are responsible for. Note that this browse is related to the Warehouse User Groups browse.

A user group can be assigned to multiple work zones. For example, this allows different people to perform different activities within different locations and areas of the warehouse. A work zone can have multiple user groups assigned to it.

Note It is not mandatory to assign users to work zones. If a user is assigned to a specific user group, then that user can work only within that specific work zone. If not, the user is able to work in all work zones

Warehouse User Work Zone Assignments View

Summary Panel

The summary panel displays the key data of the warehouse user work zone assignment you are working on, including the Warehouse and User Group fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel contains the parameters that allows you to assign a user group to a work zone and specify a warehouse and a default printer to a user group. Note that this panel is related to the **Warehouse User Groups** browse.

Warehouse

Enter the warehouse of your preference.This is a mandatory field.

User Group

Enter the name of the user group you want to assign to a work zone. A user group can be assigned to multiple work zones. For example, this allows different people to perform put-away and picking on the same location.This is a mandatory field.

Description

Optionally, enter a brief description of the warehouse user work zone assignment.

Default Printer

Specify the default printer you want to assign. You can assign only one printer to a user group.

User Assignments Panel

The user assignments panel contains the parameters to configure a user and link it to a user group. Note that this panel is related to the Warehouse User Groups browse.

User

Enter the user you want to assign to a warehouse user group. You can only assign one user for each warehouse and user group combination. This field is mandatory.

User Name

This is a read-only field, displaying the user name.

Enabled

This is a read only field. Indicates whether the user has access to the warehouse.

Active

This is a read only field. Indicates if the user is an active record.

Work Zone Assignments Panel

The work zone assignments panel contains the parameters to configure a work zone in the corresponding warehouse. Note that this panel is related to the Warehouse User Groups browse.

Work Zone

This is a mandatory field, enter the name of the work zone to which the warehouse location belongs.

Description

This is a read only field, displaying the description of the work zone.

Device Type

This is a read only field, displaying the code of the device that you are using in this work zone.

Creating Warehouse User Work Zone Assignments

1. Go to **Warehouse User Work Zone Assignment**.
2. Click **New** in the default browse to add a new row in the grid..
3. Complete the fields described in the Warehouse User Work Zone Assignments on page 4148 view.
4. Click **Save** .

Modifying Warehouse User Work Zone Assignments

1. Go to the **Warehouse User Work Zone Assignment**.
2. Select the row to modify, then click **Edit.** .
3. Edit the applicable information.

4. Click **Save** to update the warehouse user group. The system displays a message stating that the edited item is saved successfully.

Deleting Warehouse User Work Zone Assignments

1. Go to **Warehouse User Work Zone Assignment**.
2. Select the row to delete, then double-click the row.
3. Click the **Delete** button above the grid.
4. The system prompts a delete confirmation message. Click **Delete**.

Material Routings

Use Material Routings to define the warehouse area where the inventory is moved next and the warehouse area where the inventory is moved from. For each step within the internal routing, you need to specify the number of fields that control how the inventory is processed as it reaches that point in the sequence. The parameters are controlled at the point where inventory is taken from. Certain regions of a warehouse might have their own unique characteristics, and material routings assist in automatically guiding users to perform the correct action, physical or in the system as goods are moved.

Material Routings View

Summary Panel

The summary panel displays the key data of the current material routing, including the Warehouse and Material Routing fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel allows you to specify and manage the basic information of a material routing. The panel contains the following fields:

Warehouse

Enter the warehouse you want to define for the material routing. This is a mandatory field.

Material Routing

Enter the material routing. This is a mandatory field.

Description

Optionally enter a brief description of the material routing.

Routing Sequences Panel

Area

Enter the area where the material routing belongs.This is a mandatory field.

Note If you leave the field blank, the system notifies you that the blank field is not allowed when attempting to save or leave the field.

Check Inspection

Select the checkbox to determine whether inspection must take place.

Check Shortages

Select the checkbox to verify the shortage clearance before a location is identified to receive the inventory. This option looks for orders that were not fully satisfied in the original picking because of insufficient inventory levels.

Keep Inventory Status

Specify how the system sets the status of transferred inventory. Select this checkbox to allow the inventory status of the transferred inventory to retain its original value.

Sequence

This is a mandatory field. Enter the sequence number for the storage zone. The sequence number indicates the order in which the system searches storage zones in order to pick inventory for the replenishment. The lowest sequence number is the first storage zone that the system searches. To facilitate the process to add steps within the sequence later, standard practice is to number the sequences as 10, 20, 30 rather than 1, 2, 3.

Task Priority

Assign a default priority value to transactions in the material routing.

Task Priority Increment

Specify the increment that is added to a transaction's priority as time elapses when you run the increment addition program as a background process.

Specifying an increment prevents the situation where a relatively low-priority transaction never reaches the top of the priority list, then never gets performed. By gradually incrementing the priority, you ensure that even low-priority tasks are eventually performed.

Task Type

Specify the task type for the material routing you want to create. This field is mandatory.

Warehouse Material Routings Detail

Click **Details** to access the routing sequences, transactions, and picking panels, and edit the information of the material routing.

Routing Sequences Panel

Area

Enter the area in which the inventory should be considered. This field is mandatory.

Sequence

Specify the sequence in which the alternate task should be considered. This field is mandatory.

Transactions Panel

Task Type

Enter the name of the standard task type.

Task Priority

Assign a default priority value to transactions in the material routing.

Task Priority Increment

Specify the increment that is added to a transaction's priority as time elapses.

Create Shipper

Select the checkbox to create standard shippers. You can use standard shipping functions to consolidate and print these shippers as shippers, containers, or bills of lading. Standard shipping functions can also be used for bulk shipment of, for example, multiple sales orders that have been combined onto a single shipper.

Check Inspection

Select the checkbox to determine whether inspection must take place.

Check Shortages

Select the checkbox to verify the shortage clearance before a location is identified to receive the inventory. This option looks for orders that were not fully satisfied in the original picking because of insufficient inventory levels.

Keep Inventory Status

Specify how the system sets the status of transferred inventory. Select this checkbox to allow the inventory status of the transferred inventory to retain its original value.

From Location Option

Select the location where inventory is being transferred from. Choose a number to define whether warehouse staff can modify the From Location aspect of inventory transactions. The options below determine how the transaction functions and what action might be required to be taken by the user:

- 0: No change allowed
- 1: Issue a warning if the field is changed
- 2: Request confirmation if the field is changed
- 3: Require re-entry if the field is changed

To Location Option

Select a number to define whether warehouse staff are allowed to modify the destination location aspect of inventory transactions. The options below determine how the transaction functions and which action the user might need to take:

- 0: No change allowed

- 1: Re-prompt; must be different location
- 2: Re-prompt; can be same location
- 3: Re-prompt; can be same location, warn if different
- 4: Re-prompt; can be same location, confirm if different
- 5: Re-prompt; can be same location, re-enter if different

From Lot Option

Enter a number to define whether warehouse staff can modify the From Lot/Serial to one that is different from that assigned by the system. The options are the following:

- 0: No change allowed
- 1: Issue a warning if the field is changed
- 2: Request confirmation if the field is changed
- 3: Require re-entry if the field is changed

To Lot Option

Enter a number to define whether warehouse staff is allowed to modify the destination Lot aspect of inventory transactions, and, if so, what action is required. The options are as follows:

- 0: No change allowed
- 1: Blank the Lot/Serial field
- 2: Re-prompt. Non-blank Lot/Serial required
- 3: Re-prompt. Allow old L/S. Blank not allowed
- 4: Re-prompt. Any Lot/Serial value allowed
- 5: 3+ Warning if changed
- 6: 4+ Warning if changed
- 7: 3+ Confirmation of change required
- 8: 4+ Confirmation of change required
- 9: 3+ Re-entry required if changed
- 10: 4+ Re-entry required if changed

From Reference Option

Enter a number to define whether warehouse staff is allowed to modify the From Reference aspect of inventory transactions, and, if so, what action is required. The options are the following:

- 0: No change allowed
- 1: Issue a warning if the field is changed
- 2: Request confirmation if the field is changed

- 3: Require re-entry if the field is changed

To Reference Option

Enter a number to define whether warehouse staff is allowed to modify the destination reference aspect of inventory transactions, and, if so, what action is required.The options are the following:

- 0: No change allowed
- 1: Blank the reference field
- 2: Re-prompt. Non-blank reference required
- 3: Re-prompt. Allow old references. Blank not allowed
- 4: Re-prompt. Any reference value allowed
- 5: Automatically regenerate a new Reference
- 6: 3+ Warning if changed
- 7: 4+ Warning if changed
- 8: 3+ Confirmation required if changed
- 9: 4+ Confirmation required if changed
- 10: 3+ Re-entry required if changed
- 11: 4+ Re-entry required if changed
- 12: 5+ Re-prompt

From Pack Option

Enter a number to define whether warehouse staff are allowed to modify the From Pack Code aspect of inventory transactions, and, if so, which action is required. The options are the following:

- 0: No change allowed
- 1: Issue a warning if the field is changed
- 2: Request confirmation if the field is changed
- 3: Require re-entry if the field is changed

To Pack Option

Enter a number to define whether warehouse staff are allowed to modify the destination pack code aspect of inventory transactions, and, if so, which action is required. The options are as follows:

- 0: No change allowed
- 1: Issue a warning if the field is changed
- 2: Request confirmation if the field is changed
- 3: Require re-entry if the field is changed

Adjust Packaging

Select from the following options to adjust the packaging when a transaction is performed:

- Decomm All
- Decomm Master
- Pack Build
- Remove
- Repackage
- Split

Quantity Change Option

This field defines the action to be taken if the quantity is changed as controlled by the Allow Quantity settings. The options are as follows:

- 0: Accept the change
- 1: Accept the change and display a warning
- 2: Accept the change if in the form of a quantity, otherwise re-enter

Allow Quantity Increase

Select the checkbox if warehouse staff are allowed to increase the quantity when a transaction is performed.

Note If the checkbox is selected then the transaction takes into consideration the quantity change option.

Allow Quantity Decrease

Select the checkbox if warehouse staff are allowed to decrease the quantity when a transaction is performed.

Note If the checkbox is selected, then the transaction takes into consideration the quantity change option.

Picking Panel

Repick Type

Enter the transaction type that should be used if a re-pick is required.

Note This re-pick transaction type must start with PICK-, and must be defined in Transaction Type . If you leave the Repick Type field blank, the re-pick will use the same transaction type as the original picking.

Direct Pick

Select the checkbox if you want to allow direct picks for the material.

Allow Switch Lot/Serial

Select the checkbox to activate the switch lot/serial and reference functionality by material routing.

Expire Date (Days)

Indicates the date to use when you select expired call quotes to be deleted or archived.

Creating Material Routings

1. Go to Material Routings.
2. Click the **New**.
3. Complete the fields described in the Material Routings on page 4151 section.
4. Click **Save** to continue adding rows.

Modifying Material Routings

1. Go to **Material Routings**.
2. Select the row of interest, and click **Edit**, or double-click the row.
3. In the main panel, edit the applicable information.
4. Click **Save** to update the edited material routing. The system displays a message stating that the edited material routing is saved successfully.

Deleting Material Routings

1. Go to **Material Routings**.
2. Select the row of interest, then double-click the row.
3. Click the **Delete** button above the grid.
4. The system displays a delete confirmation message. Click **Delete**.

Material Routings Assignments

Use **Material Routing Assignments** to define the warehouse area where the inventory is moved next. For each step within the internal routing, you need to specify the number of fields that control how the inventory is processed until it reaches that point in the sequence.

On this screen, you can assign a material routing to a specific warehouse and transaction type. You can specify the combination of a transaction type with an item, warehouse item type, or an address relating to a supplier or customer.

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Material Routing Assignments View

Summary Panel

The Summary panel displays the key data of the material routing assignment you are working on, including the Transaction Type, Site, Warehouse and Material Routing fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a material routing assignment. The panel contains the following fields:

Transaction Type

This is a mandatory field. Specify the transaction type to link to a material routing. The transaction type defines types of inventory transactions that are related to specific material routing. The following transaction types are specific to Request programs:

- Picking Request
  - PICK-SO – Sales Order Picking.
  - PICK-WO – Production Order PickingPICK-SO – Sales Order Picking.
- Putaway Request
  - PUT-TR – Putaway.
  - OTF-TR – On the Fly Transfer (real-time inventory transfer on the shop floor).
- Replenishment Request
  - PICK-RE – Replenishing Picking.
- Cycle Request
  - CYC-CNT – Cycle Count.
  - CYC-RCNT - Cycle Recount.

Site

This is a mandatory field. Enter a code to identify a site. A site represents a place where inventory is manufactured or stored, such as a distribution center, a warehouse, a manufacturing facility, or any combination of these.

Warehouse

This is a mandatory field. Enter the warehouse in which you want to define the material routing.

Item

Enter an item number if you want to assign a material routing to a combination of transaction type and item.

Warehouse Item Type

Enter the item type code if you want to assign a material routing to a combination of transaction type and warehouse item type.

Address

If you want to assign a material routing to a combination of transaction type and address, enter an address code. For receipt types of transactions, the address relates to the supplier of the item being received. For issue types of transactions, the address relates to the customer to whom the goods are to be dispatched.

From Area

Optionally, enter the area where inventory should be transferred from. Leave this field blank to specify all areas.

From Zone

Optionally, enter the zone where inventory should be transferred from. Leave this field blank to specify all zones.

From Location

Optionally, enter the location where inventory should be transferred from. Leave this field blank to specify all locations.

Destination Location

Optionally, enter the destination location. Leave this field blank to specify all locations.

Sequence

Specify the sequence in which the alternate task should be considered. This is a mandatory field.

Material Routing

This is a mandatory field. Specify the code that identifies the material routing that you want to assign to a particular transaction type. The material routing must exist in the system.

Creating Material Routing Assignments

1. Go to **Material Routing Assignments**.
2. Click **New**.
3. Complete the fields described in the Creating Material Routing Assignments on page 4160 view.
4. Click **Save**.

Modifying Material Routing Assignments

1. Go to **Material Routing Assignments**.
2. Select the row of interest, and click **Edit**.
3. Edit the Material Routing or Sequence field. All other fields are not editable.
4. Click **Save** to update the edited material routing assignment. The system displays that the edited material routing assignment is saved successfully.

Deleting Material Routing Assignments

1. Go to **Material Routing Assignments**.
2. Click **Edit** or double-click the record that you want to update.
3. Click **Delete** button above the grid.
4. The system displays a delete confirmation message. Click **Delete**.

Replenishment Lists

Replenishment Lists allows you to create a sequential list of storage zones that is used during the replenishment process to determine where to pick goods from. This allows you to manage a warehouse more efficiently.

Replenishment Lists View

Summary Panel

The summary panel displays the key data of the replenishment list you are working on, including the Warehouse and Replenishment List fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The main panel allows you to specify and manage the basic information of replenishment lists. The panel contains the following fields:

Warehouse

This is a mandatory field. Enter the warehouse you want to define for the work zone.

Note If you enter an invalid warehouse ID or leave it blank, when you leave the field or attempt to save the changes, the system notifies you that the warehouse does not exist or the blank field is not allowed.

Replenishment List

This is a mandatory field. Enter the replenishment list you want to create.

Note If you leave the field blank, the system notifies you the blank field is not allowed when attempting to save or upon leaving the field.

Description

Optionally, enter a brief description of the replenishment list.

Ignore Sequence

Indicate if you want the system to follow the sequenced list of storage zones or if you want the system to ignore the sequence. Select the checkbox to ignore the sequence and treat the list as a generic group. This ensures that rules like FIFO or FEFO are not broken because of the sequence.

Replenishment Lists Panel

This panel allows you to specify or set up some fields like the storage zone you want . The panel contains the following fields:

Sequence

Enter the sequence number for the storage zone. The sequence number indicates the order that the system searches storage zones in order to pick inventory for the replenishment. The lowest sequence number is the first storage zone that the system searches.To make it easier to add steps within the sequence later, standard practice is to number the sequences as 10, 20, 30 rather than 1, 2, 3.

Note Each sequence number must be unique. You cannot list the same storage zone on two different sequences, but you can add the same storage zone to multiple storage lists.

Storage Zone

This field is mandatory. Enter the storage zone that corresponds to the sequence.

Description

This is a read-only field, the description is shown depending on the selected storage zone .

Warehouse

This is a read-only field, the warehouse will be the same as the main panel.

Area

The Area field is automatically populated based on the warehouse and storage zone that you enter in the Replenishment Lists panel.

Creating Replenishment Lists

1. Go to **Replenishment Lists**.
2. Click **New**.
3. Complete the fields described in the Replenishment Lists on page 4161 view.
4. Click **Save** to create the new record.
5. Optionally in the Replenishment Lists panel click the **New** button to add more detailed information related to the Sequence and the Storage Zone.
6. Click **Done** to continue.

Modifying Replenishment Lists

1. Go to **Replenishment Lists**.
2. Select the row of interest, then click **Edit**.
3. Edit the applicable information.
4. Click **Save** to update the replenishment list. The system displays a message stating that the edited replenishment list is saved successfully.

Deleting Replenishment Lists

1. Go to **Replenishment Lists**.
2. Select the row to delete, then double-click the row.
3. Click the **Delete** button above the grid.
4. The system displays a delete confirmation message. Click **Delete**.

Replenishment Locations

With **Replenishment Locations** you can associate a replenishment list with items, storage zones and warehouse locations, and define specific settings and conditions for each replenishment list, in order to increase the efficiency of your warehouse.

When defining the replenishment locations settings, you will be able to:

- Specify the start and end dates the replenishment occurs
- Specify the replenishment point, which is the quantity in stock that triggers the replenishment to occur.
- Specify the maximum quantity that can be replenished.

Replenishment Locations View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the replenishment location you are working on, including Warehouse, Area and Storage Zones, and their respective descriptions. These fields are read-only and stay in view when scrolling down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a replenishment location. The panel contains the following fields:

Warehouse

Enter the warehouse you want to link to the replenishment list. This field is mandatory.

Site

Enter the site you want to link to the replenishment list. This field is mandatory.

Area

Enter the area you want to link to the replenishment list. This field is mandatory.

Storage Zone

Enter the storage zone you want to link to the replenishment list. This field is mandatory.

Warehouse Location

Optionally, enter the name of a warehouse location you want to link to the replenishment list. If left blank, the system considers the settings for the whole storage zone.

Item

Optionally, enter the item you want to link to the replenishment list.

The item is used to generate Tasks by Replenishment Request. Most reports can be selected by item number

Replenishment Panel

The Replenishment panel allows you to define the settings for the replenishment locations. The panel contains the following fields:

Replenishment Type

Enter a replenishment type, such as pallet, loose, or boxes. This is used to group items together with the same replenishment requirements. Replenishment can then be specified for a group of items or for an individual item. Leave this field blank if the item does not belong to a particular replenishment type.

Replenishment List

Enter the name of the Replenishment List to be used by replenishment functions. This field is mandatory.

Replenishment UM

Enter the UM to use for replenishment. This field is mandatory.

Start Date

Enter the first date that the replenishment should be carried out. When a date is entered in this field, this record cannot be used to generate Tasks before that date. If left blank, the replenishment can occur at any time.

Note If you enter a start date earlier than the current date, when attempting to save the changes, the system notifies you the transaction is invalid.

End Date

Enter the last day the replenishment can be carried out. When a date is entered in this field, this record cannot be used to generate Tasks after that date. If left blank, the replenishment can occur without any deadline.

Note If you enter an end date earlier than the current date or earlier than the start date, when attempting to save the changes, the system notifies you the transaction is invalid.

Replenishment Point

Enter the quantity of stock at which the location should be replenished.

Maximum Quantity

Specify the maximum quantity by which the location/item may be replenished. Leave this field blank to allow any quantity.

Creating a Replenishment Location

1. Go to **Replenishment Locations**.
2. Click New to open the view.
3. Complete the fields described in **Replenishment Locations View**.
4. Click Save to create the new record.

Modifying a Replenishment Location

1. Go to **Replenishment Locations**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Replenishment Locations View.**
4. Click Save to update the record.

Deleting a Replenishment Location

1. Go to **Replenishment Locations**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Storage Zones

A storage zone is a sub-element of a warehouse area. When you define a storage zone, you can create a set of requirements and rules within which the movement of inventory is managed.

After defining the warehouse and its warehouse area, the next step is to set up all the storage zones or storage location groups (SLG) for each area. **Storage Zones** allows you to define specific actions or transactions to be performed in the storage zone. You can also define a storage zone to allow mixing of item numbers, lots, or pack codes.

Storage Zones View

Summary Panel

The Summary panel is located between the menu and the navigation bar. It displays the key data of the storage zone you are working on, including Warehouse / Description, Area / Description, and Storage Zone / Description. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information about a storage zone. The panel contains the following fields:

Warehouse

Look up or enter the ID of the warehouse in which you want to maintain the storage zone.

Area

Look up or enter an area ID to which the storage zone belongs.

Storage Zone

Enter an ID to identify the storage zone you want to create or modify. This field is mandatory and the ID must be unique per warehouse and area.

Description

You can optionally enter a brief description of the storage zone.

Storage Zone Settings Panel

The Storage Zone Settings panel displays different check boxes and fields that allow you to specify the storage zones configuration.

Storage Type

Search for and select the storage type from the Generalized Codes lookup. If necessary, set up a Storage Type in the Generalized Codes window following these steps:

1. Click **New** on the Generalized Codes window.

2. Enter the field name e.g., WE_StorageType.
3. Enter a value from the following possible general codes:
   a. Loose
   b. Medium
   c. Not Reel
   d. Pallet
   e. PickFace
   f. Reel

Allow Issues

Select this check box to allow inventory issuing from locations in the current storage zone. The check box receives by default the selection done in the Warehouse Areas setup; however, you can select or clear this check box to your preference.

Allow Receipts

Select this check box to specify if inventory can be received into the storage zones from outside the system. The check box receives by default the selection done in the Warehouse Areas setup; however, you can select or clear this check box to your preference.

Allow Outbound Returns

Select this check box to allow inventory to be issued from locations in the current storage zone as part of a returned issue. The check box receives by default the selection done in the Warehouse Areas setup, however,you can select or clear this check box to your preference.

Allow Inbound Returns

Select this check box to allow inventory to be received into the storage zones as part of a returned issue. The check box receives by default the selection done in the Warehouse Areas setup; however, you can select or clear this check box to your preference.

Exclude from Picking

Select this check box to specify if the inventory can be excluded from picking. The check box receives by default the selection done in the Warehouse Areas setup; however, you can select or clear this check box to your preference.

Note The storage zones in functional areas, such as receipt, inspect, pack, and dispatch, are commonly excluded from picking.

Putaway Type

- For Functional areas, the Putaway Type field is enabled and set to Pack by default. Select from the dropdown menu if the putaway type corresponds to a Unit, Pack, or Volume.

- For Non-Functional areas, the Putaway Type field is disabled and set to blank by default.

Allow Mixed Status Codes

Select this check box to allow the storage zone to contain inventory with a mixture of different status codes. The check box receives by default the selection done in the Warehouse Areas setup; however, you can select or clear this check box to your preference.

Allow Splitting

Select this check box to allow storage zone splitting into smaller units. This check box is cleared by default.

Decommission Pack

Select this check box to specify if packs can be decommissioned in the storage zone. This check box is cleared by default.

Opportunity Counts

Select this check box to specify that staff can be requested to perform cycle counts while they are at locations within this storage zone. This check box is cleared by default.

Count Frequency

If the Opportunity Counts check box is selected, enter the frequency, in days, with which counts can be initiated. The following are examples of how the frequency is determined based on the days entered in the field:

- Enter 0 (zero) to allow an unlimited number of opportunities.
- Enter 1 to set the Opportunity Count frequency to once per day.
- Enter 2 to set the Opportunity Count frequency to every two days.

The field is set to 0 (zero) by default and you can only enter up to four digits.

Allow Over Pick (check box)

Select this check box to allow you to pick more stock from locations in this storage zone than what it is specified in the order. This check box is cleared by default.

Picking Level

You can assign a picking level number to each storage zone. The field is set to 0 (zero) by default and you can only enter up to four digits.

Storage Pack Code

Search and select the pack code from the Pack Codes lookup.

Storage Pack UM

Search for and select the unit of measurement (UM) from the Code Master lookup.

Allow Mixed Pack Storage

Select this check box to allow the storage zone to contain inventory with a mixture of different pack codes. This check box is cleared by default.

Allow Mixed Items Storage

Select this check box to allow the storage zone to contain inventory with a mixture of different items. This check box is cleared by default.

Allow Mixed Lots Storage

Select this check box to allow the storage zones to contain inventory with a mixture of different lots. This check box is cleared by default.

Remove Lot

Select this check box to remove lots when the inventory is transferred into the storage zone. This check box is cleared by default.

Creating a Storage Zone

1. Go to **Storage Zones**.
2. Click New to open the view.
3. Complete the fields described in **Storage Zones View**.
4. Click Save to create the new record.

Modifying Storage Zones

1. Go to **Storage Zones**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Storage Zones View.**
4. Click Save to update the record.

Deleting a Storage Zone

1. Go to **Storage Zones**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Storage Zone Lists

You can use **Storage Zone Lists** to set up a sequenced list of warehouse storage zone lists to specify the preferred location where the items will be put away.

Storage Zone Lists View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the current storage zone, including the Warehouse and Storage List. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

The Main panel allows you to specify and manage the basic information of a storage zone list. The panel contains the following fields:

Warehouse

Search or enter a warehouse from the lookup window. This is a mandatory field.

Storage List

Enter the name of the storage list. This is a mandatory field.

Description

Optionally, enter the description of the storage list.

Assignments Panel

The Assignments panel grid displays the sequence order for each list. This grid allows you to create, modify, or delete sequences and includes the Sequence, Storage Zone, Description, Area, and Area Description columns.

Sequence

Assign the place of the storage zone list in the sequence. You can enter up to 4 digits. This field is mandatory.

Storage Zone

A storage zone is a sub-element of an area (storage/throughput/ production zones/ supermarkets). Search or enter a storage zone from the lookup window. This field is mandatory.

Description

This read-only field displays the storage zone description.

Area

This read-only field displays the area linked to the storage zone.

Area Description

This read-only field displays the description of the area associated with the storage zone.

Creating a Storage Zone List

1. Go to **Storage Zone Lists**.
2. Click New to open the view.
3. Complete the fields described in **Storage Zone Lists View**.
4. Click Save to create the new record.

Modifying Storage Zone Lists

1. Go to **Storage Zone Lists**.
2. Select the record of interest, and click **Edit** or double-click.
3. Modify the desired fields. The editable fields can be consulted in **Storage Zone Lists View.**
4. Click Save to update the record.

Deleting a Storage Zone List

1. Go to **Storage Zone Lists**.
2. Click Edit or double-click the record you want to delete.
3. Click Delete to remove the record.

Putaway Simulation

The **Putaway Simulation** QRF allows you to simulate the putaway location for serials and loose inventory. The system displays or reports the locations that would have been used by the system if the simulation were executed as a real transaction.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Site

Enter the site to be included in the report. This field is mandatory.

Warehouse

Enter the warehouse to be included in the report. This field is mandatory.

Area

Enter the range of areas to be included in the report.

Item

Enter the range of items to be included in the report.

Location

Enter the range of locations to be included in the report.

Lot/Serial

Enter the range of lot or serials to be included in the report.

Reference

Enter the range of references to be included in the report.

Serial

Enter the range of serials to be included in the report.

Transaction Type

Enter the transaction type to be included in the report. The field defaults to PUT-TR.

Detail Report

Indicate the level of detail on the report output by selecting one of the following options:

- Summary: This is the default option. The system displays a subset of data related to the putaway transaction.
- Detail: The system displays detailed data related to the putaway transaction. The detailed report includes all fields from the summary report, plus additional information, such as multiple rows of text messages detailing the engine's processing.

Click **Run** to continue.

Kanban

Kanban is a method of just-in-time (JIT) production that uses standard containers or lot sizes with a single card attached to each. It is a pull system in which work centers use a card to signal that items are to be withdrawn from supply sources. The Japanese word kanban, loosely translated, means card, billboard, or sign. The term is often used synonymously for the specific scheduling system developed and used by the Toyota Corporation in Japan.

The kanban system is conceptually very simple. It defines a communication signal or card indicating that items need replenishment. Traditional production processes rely on schedules to push inventory into stocking locations. Kanban pulls material through the manufacturing process based on the actual demand from customer orders or production consumption. Kanban is an integral component of demand pull manufacturing, where material is pulled to where it is needed, when it is needed—and no sooner.

The Kanban module is a flexible, comprehensive set of tools for setting up, managing, and optimizing the performance of a pull-based kanban system. Features include methods of calculating key information that is vital to the success of the lean enterprise.

Kanban Masters

The loop supplies a kanban supermarket, which is an inventory location that can hold either finished goods or work-in-process (WIP) materials that supply another kanban loop. Loops receive input from a manufacturing process, an external supplier, or an inventory supermarket supplied by another loop.

Kanban is a method of production and inventory control that relies on standard container sizes and cards to communicate demand requirements based on pull replenishment techniques. In pull replenishment, materials are produced only as required by a downstream process. Downstream demand pulls materials from upstream processes all the way through to the final customer, who ultimately drives the entire production cycle by creating the initial demand pull. This contrasts with push systems, in which the standard procedure is to make the next item immediately after the last one, regardless of demand from downstream processes.

Typically, you use this program to set up base data for the loop. A number of other programs on the Kanban menu can automatically calculate detailed data and update the values for the kanban loop:

- Average Demand Calculation updates the Daily Demand field by calculating average demand over the period specified in Demand Calculation Templates.
- Safety Stock Calculation determine safety stock quantities based on the method you specify in Kanban Masters.
- The kanban workbenches calculate the number of kanban cards or kanban quantity, the maximum buffer size for the supermarket, the order quantity, and the order point.
- Historical Buffer Evaluation can be used to simulate the effects of modified loop data, then update the loop record with new maximum buffer size, kanban quantity or number of cards, safety stock, variability, and replenishment lead time data.
- Loop Analysis and Recommendations can be used to manage multiple loops by analyzing and optionally implementing system-generated recommendations to create, activate, close, or inactivate cards to bring the loops back into conformance with optimum loop sizing.

Supermarkets

In lean manufacturing, a supermarket is a controlled inventory location used to schedule production at an upstream process. Supermarkets can absorb variations in demand, compensate for differences in processing time among production operations, and allow a single work cell or operation to supply multiple downstream processes with different, variable rates of demand.

They can hold either work-in-process inventory or finished goods. Typically, supermarkets are placed at points in the overall workflow when continuous flow is interrupted and FIFO lanes are not practical. For example, supermarkets can be placed:

- Between the customer and the pacemaker process to buffer variations in demand. The pacemaker is normally the process that responds most directly to orders from external customers.
- At a point that reduces the remaining time to completion to less than the customer lead time.
- Between operations at which the batch size has to change because the every-part-every interval (EPEI) is too large. The EPEI is the total time required to run the average demand quantity of all the items produced by a process, including changeover times.
- After operations that include unpredictable elements and long changeover times.
- Before a divergence point--a place where the process output begins to supply multiple downstream processes--or an assembly operation.

Use the Supermarket Item Detail frame to define characteristics of how an item is stored at a supermarket for this kanban loop. For example, you can specify the maximum quantity that should be stored at the supermarket, the average demand, safety stock data, and buffer tolerances that can be used to evaluate historical or projected performance. Much of this data can be automatically updated based on output from workbenches and other related programs such as Historical Buffer Evaluation. Define supermarkets in Kanban Supermarkets, and associate them with kanban loops in Kanban Masters.

A supermarket can serve both as the destination for completed kanban items from one loop and as the source of supply for another loop.

FIFO Lanes

First-in, first-out (FIFO) lanes are used in lean manufacturing between two manufacturing processes where the first process receives the signal to produce from the supermarket (or from a FIFO lane from a previous process) and moves material to the following process. The product produced at the second process is run in the order that it is received. Completed material moves to the supermarket or to another FIFO lane.

A FIFO lane between two decoupled processes may substitute for a supermarket and provide a way to maintain a flow between the two processes, eliminating the need for an inventory supermarket buffer.

FIFO lanes can be useful in several situations:

- Where multiple value-streams meet before product customization
- In front of large batch operations where dissimilar parts go through an operation such as welding, plating, anodizing, stamping, or painting

- In processes downstream from the pacemaker that run at a different rate from the pacemaker

To set up a kanban loop that is supplied by a FIFO lane or a sequence of FIFO lanes, define each FIFO lane as a process in Kanban Processes with Process Function set to FIFO. When you define a kanban loop in Kanban Masters that is supplied by a process, you can set Use FIFO to Yes to reference one or more FIFO lanes that work on the source material after it leaves the primary source process.

Based on how closely the flow of kanban material is controlled, cards can be recorded using the Ship action in Kanban Cards as the material moves through a series of FIFO lanes. The system tracks the material by assigning the cards an in-process status. When the last FIFO process is completed, the system changes the status to shipped to indicate that the kanban has moved to the supermarket.

Safety Stock

Safety stock provides protection against running out of stock in a supermarket during the time it takes to replenish inventory. It is needed when actual usage exceeds forecasted demand and helps ensure that you can fulfill requests for a product even when the inventory level is low.

Safety stock can be entered manually in Kanban Masters, either as an inventory quantity or as a number of days, or you can choose to have the system calculate it using one of these methods:

- Simple. The system calculates the safety stock quantity based on standard deviations to meet a specified service level, which is the probability of meeting demand under all circumstances. Higher service levels result in more supermarket inventory.
- Peak. The system determines safety stock based on peak historical demand during a specified number of days.

When you specify one of the calculated methods, the system can update safety stock as needed when you run one of the following programs for the kanban loop:

- Safety Stock Calculation
- Historical Buffer Evaluation

Accumulators

The size of a kanban does not have to be the same as the order quantity. To provide the agility to respond quickly to demand changes, the order quantity is typically set to a multiple of the kanban replenishment card quantity. When you define kanban loops using Kanban Masters, you can set up accumulators to combine quantities from multiple kanbans--automatically authorizing production based on a cumulative quantity, an amount of time expired, or a schedule.

In a manual environment, this would be the equivalent of accumulating cards in a slot and defining a rule to prohibit production until the specified number of empty cards is returned, until a certain amount of time has expired, or only on specified days of the week--assuming that the order quantity has been met.

When kanban transactions are processed for replenishment cards, the system accumulates quantities based on the type of accumulator specified in the second Card Tracking Control frame:

- Quantity: When the sum of empty replenishment cards reaches the value in the Order Quantity field, the system authorizes all empty cards in the kanban loop.
- Time: After a specified time has elapsed, the system checks for empty cards. If the total of empty cards is equal to or greater than the order quantity, all the cards are authorized.
- Schedule: At user-specified days and times, the system checks for empty cards. If the total of empty cards is equal to or greater than the order quantity, all the cards are authorized.

Run Kanban Accumulator to automatically authorize cards based on the selected accumulator type.

Inventory Effects

Two fields in the second Card Tracking Control frame determine how the system generates inventory transactions when a replenishment card is recorded using the Fill/Receive in Kanban Cards.

When Impact Inventory is Yes, specific transactions depend on the source type:

- When the source is an external supplier, processing the replenishment card generates a purchase receipt for the specified purchase order and line. You can associate a default PO or blanket PO number with the source in the Source Master Data frame. You can also enter a PO number in the Fill/Receive in Kanban Cards. The system records the receipt at the consuming site and location (RCT-PO or, for consignment orders, RCT-CN), increasing the quantity on hand at the supermarket. The system creates a similar transaction if the purchase order received is a subcontract PO.
- When the source is an inventory supermarket, filling the kanban by moving the items to another inventory supermarket creates an inventory transfer from the supplying source to the consuming supermarket (ISS-TR and RCT-TR). When one of the supermarkets is a WIP location, moving the items creates an ISS-UNP or RCT-RS transaction, depending on the direction of the movement.

If both the source and destination are WIP supermarkets, setting Impact Inventory to Yes has no effect unless the source and destination supermarkets are in different sites. In that case, the system generates RCT-RS, ISS-TR, RCT-TR, and ISS-UNP transactions to account for intersite inventory movement.

When the source is a manufacturing process, filling the kanban receives the production item at an inventory supermarket location (RCT-WO).

When Component/Op Transactions is Yes for loops supplied by a process, the system:

- Backflushes bill of material components from the supplying source using an ISS-WO transaction.
- Debits/credits appropriate labor accounts based on routing setup data.
- If the loop includes subcontract operations, creates a RCT-PO transaction against the purchase order specified in the routing operation record if that PO is available. If not, the system prompts for a purchase order and line when the card is recorded.

Some programs that display inventory transaction history records, such as Transactions Detail Inquiry, include the card ID in the Remarks field for kanban transactions. You also can use the view programs on the Kanban Transactions Menu, which display both kanban and inventory transaction history.

General Ledger (GL) Effects

Depending on the settings of Impact Inventory and Backflush Components in Kanban Masters, the system generates associated GL transactions. The specific transactions depend on the source type for the loop.

Purchase receipts for supplier kanbans:

- Debit the Inventory account for the item product line and receiving supermarket location. For consignment orders, this is the PO Consigned Offset account.
- Debit (or credit) the PO Price Variance account defined in Purchasing Accounts for the item product line, order site, and supplier type.
- Credit the PO Receipts account defined for the supplier in Supplier Accounts, if available; otherwise, credit the PO Receipts account in Purchasing Account Maintenance for the product line, order site, and supplier type. For consignment orders, this is the PO Consigned Inventory account.
- Credit the Overhead Applied account defined in Purchasing Accounts for the item product line, order site, and supplier type to apply the fixed overhead portion of GL cost prior to calculating variance.

Item movements for inventory kanbans:

- Debit the Inventory account for the item product line and receiving supermarket location.
- Credit the Inventory account for the item product line and supplying source.

Production receipts for process kanbans:

- Debit the Inventory account for the item product line and receiving supermarket location.
- Credit the Work in Process (WIP) account defined in Work Order Accounts for the item product line and supplying source/reference.

  Note To prevent labor and burden from being recorded twice against standard cost -- once during backflush and again with the RCT-WO transaction generated with the production receipt -- the system uses the following logic to determine when to record them:

  - The transactions are recorded only in op_hist when there is a routing with operations.
  - When no operations are specified, the transactions are recorded only in tr_hist.

To provide consistency with standard cost-creation functionality, order quantities are based on item master values rather than those in the kanban loop record.

Component issues for process kanbans that include backflush:

- Debit the Inventory account for the item product line and receiving supermarket location.
- Credit the Inventory account for the item product line and supplying source/reference.

You can define inventory accounts for product line, site, and location combinations in Inventory Accounts. Otherwise, the system uses the default accounts set up by product line in Product Lines.

When inventory transactions affect more than one site, costs may differ between the two sites. Cost variances are posted to the Transfer Variance account defined for the item product line and site in Inventory Accounts, if available. Otherwise, the account defined for the site in Sites is used. The system automatically generates the appropriate balancing transactions in the GL for each site.

- When the transfer-from and transfer-to sites are in different entities, a balancing entry is posted to the appropriate Cross-Company Inventory Control account defined for the domain referencing the intercompany codes associated with the entities.

- When the two sites are in the same entity, a balancing debit or credit is posted to the Transfer Clearing account defined in Inventory Accounting Control.

You can use the view programs on the Kanban Transactions Menu to review the GL transactions that were created with a card was recorded.

Kanban Life Cycle

Follow these steps to set up and use the pull replenishment features of Kanban:

1. Set up base data, including sites, locations, items, product structures, suppliers, work centers, routings, container types, and control settings.
2. Use Kanban Items to define item/step combinations and optionally associate routing and BOM codes with them, as well as specify default information related to containers, loops, and processes for the item.
3. Use Kanban Supermarkets to identify areas where kanban inventory is stored and specify whether the supermarket stores work-in-process stock or finished goods.
4. Use Kanban Processes to identify manufacturing processes and associated process detail such as takt time, pitch, EPEI, and time available.
5. Use Kanban Processes to define kanban items produced by the process and enter item detail such as cycle time, setup time, and individual process EPEI. Identify which routing operations the process includes.
6. Use Kanban Masters to add a new kanban loop between a supplying source and a destination supermarket. Define key supermarket and loop data such as kanban quantity, number of cards, and so on. Specify whether cards should be accumulated based on quantity or time interval and automatically authorized when quantity or time parameters are met.
7. Use Process Item Operation Rollup to roll up setup, cycle, and work times for process items based on routing detail records.
8. Use Demand Calculation Template to define how many days of historical and future demand should be used in average demand and safety stock calculations.
9. Run Average Demand Calculation and Safety Stock Calculation for selected kanban loops.
10. Use Basic Process Calculations to calculate specified parameters for selected kanban processes, such as EPEI, takt time, pitch time, and available time.
11. Use the kanban workbenches to size kanbans, calculating such information as maximum supermarket buffer quantity based on average demand, safety stock and EPEI for the loop, kanban quantity,

and number of cards. Optionally update kanban loop records with recalculated data, as well as create and print new cards that result from resizing activities.

12. Use the Kanban Card Create action in Kanban Masters to generate and print the required cards for distribution to supermarkets.
13. Run Kanban Accumulator to automatically authorize production for loops based on quantity or interval accumulators set up for the loop.
14. Use programs on the Kanban Transactions menu to track the movement of kanban-controlled items in and out of production.
15. Use Kanban Dispatch List Processing to generate lists of kanban cards that have been authorized for replenishment and communicate them to the loop supplier.

Kanban Masters View

Summary Panel

The Summary panel displays the key data of the kanban master you are working on, including item, supermarket site and source type. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Item

Enter the number of the item that is replenished with this kanban loop. It must be defined in Kanban Items.

The same item can have more than one loop. For example, one loop for a purchased item could identify a supplier as the supplying source and a storeroom as the consuming destination. Another loop for the same item could identify the storeroom as the supplying source and a location in production as the consuming destination.

Supermarket Site

Enter the site code where the kanban supermarket is located. This value must be defined in Sites.

Source Type

Enter the kind of source that provides this kanban item to this loop:

- Process: The item is manufactured by a kanban process. This is the default for new kanban master records.
- Inv: The item is supplied from the inventory of a kanban supermarket.
- Supplier: The item is purchased from an external supplier.

If you modify an existing record by changing this field, the system prompts you to confirm the change.

Note The content of the Source Data panel depends on this setting.

Unit of Measurement

Enter a unit of measurement for the kanban master.

Step

Specify a step number associated with this item for this kanban loop. When you are defining a new kanban loop, the item/step combination must already be defined in Kanban Items.

Using step numbers lets you identify an item at a stage of the manufacturing process independent of any associated routing information. By using step numbers, you can distinguish between multiple loops with the same item, site, and supermarket.

Example

Item A goes through processes P1, P2, and P3 during the manufacturing cycle. P1 supplies supermarket S1, which in turn supplies P2 through a kanban loop defined as step 10. Another loop is defined between P2 and supermarket S2 (step 20), which then supplies P3 through another loop (step 30). Identifying each loop with a step number gives you a method of seeing the manufacturing cycle as a series of sequential steps, rather than a collection of sometimes unrelated operation numbers.

Supermarket

Enter the identifier representing the kanban supermarket that is supplied by this loop. This value must be defined for the specified site in Kanban Supermarkets.

Source Type Data Panel

The Source Data panel identifies the source of the item. The source can be a manufacturing process, an external supplier, or another kanban supermarket. The content of the frame varies based on the value of Source Type in the first frame:

- When the source is a process, the system displays the range of manufacturing operations associated with the process in Kanban Processes. You also can set Use FIFO to Yes to display an additional frame that lets you add FIFO lane processes to the loop.
- When the loop is supplied by an external supplier, you can add optional purchase order data.
- When the source is an inventory supermarket, simply specify the site code and supermarket identifier.

Supplier

Enter a supplier code defined in Supplier

Note This field appears when Source Type is Supplier

Purchase Order

Optionally, identify the purchase order used to obtain this kanban item from the supplier. This must be a valid, open purchase order. It is validated against the item number only when you also specify a line number.

This can be a discrete PO, a supplier schedule, or a blanket PO.

Note This field appears when Source Type is Supplier

Line

Optionally, identify the purchase order line used to obtain this kanban item from the supplier.

Note This field appears when Source Type is Supplier

Source Site

Enter the site code associated with the process or inventory supermarket that supplies this loop.

Note This field does not display when Source Type is Supplier.

Supermarket

Enter a supermarket defined in Kanban Supermarkets that supplies this kanban loop.

Note This field appears when Source Type is Inv.

Start Operation

Displays the start routing operation number associated with the process in Kanban Processes.

Note This field displays only when Source Type is Process.

Process

Enter a process defined in Kanban Processes as either a pacemaker or a standard process. If the specified item has not been associated with this process in Kanban Processes, the system automatically adds it as a process item.

Note This field displays only when Source Type is Process.

Note The primary process source cannot be a FIFO lane.

End Operation

Displays the end operation number associated with the process in Kanban Processes.

Note This field displays only when Source Type is Process.

Use FIFO

Select this checkbox to display the FIFO grid, that lets you enter one or more references to FIFO lane processes used to produce this kanban item.

This field is unselected by default for new kanban master records. When FIFO processes have been entered, the field selected by default. Unselect the checkbox if you do not want to enter, delete, or resequence FIFO processes for the kanban loop.

Note This field displays only when Source Type is Process.

FIFO Grid

Sequence

Enter the sequence in which material goes through FIFO lanes during this process. You can resequence existing records by entering a decimal. For example, if you want to insert a new FIFO process between existing sequence numbers 1 and 2, enter sequence 1.5 for the new process. When you save your changes, the system reassigns sequences 1, 2, and 3 to the process records.

Process

Enter a valid FIFO process ID. This must be defined in Kanban Processes with Process Function set to FIFO.

Description

Displays the description of the kanban process.

Start Operation

If the Kanban Process record includes a start operation, the system displays it for reference.

End Operation

If the Kanban Processes record includes an end operation, the system displays it for reference.

Supermarket Item Panel

Use the Supermarket Item Panel to specify detailed information about the supermarket that is supplied by the kanban loop.

Order Point

Optionally, specify the supermarket inventory level at which a replenishment order is signaled to the supplying process. This should be a multiple of the value specified in Pack Quantity.

Working Buffer

The system displays the actual current supermarket size based on the number of active replenishment cards using the following formula:

*Target Buffer = Kanban Quantity * Number of Active Cards*

For example, inactivating a card in Kanban Cards does not automatically reduce the Buffer Maximum value. It does, however, reduce the value of Working Buffer.

Buffer Maximum

Optionally, specify the maximum quantity of the item to be maintained in inventory at this supermarket.

When you review actual or projected supermarket performance using Historical Buffer Evaluation, you can update this field based on a system-calculated optimized maximum buffer size. This should be a multiple of the value specified in Pack Quantity.

Limit Display

Indicate how the values in the Critical Limit and Warning Limit fields are specified.

- Pct: Limits are entered as a percentage of the value of Buffer Maximum.
- Qty: Limits are entered as a quantity of items.

This value displays for reference in Historical Buffer Evaluation.

Limit Modified

The system displays the last date when the value of Critical Limit or Warning Limit was modified. A blank indicates that the fields are still set to their initial values.

Daily Demand

Optionally, enter the expected daily demand for the item supplied by this kanban loop. The system automatically updates this value when you run Kanban Average Demand Calculation.

Note When this field is blank, the system does not calculate average demand for the loop.

Variability

Enter the variability factor for this item. This value is used in order point and order quantity calculations. Variability must be greater than zero. The default is 1.

Use this field to limit or increase the amount of inventory in the supermarket buffer. Variability factor is similar to safety stock, but can be a more convenient means of estimating variations for factors such as seasonality or sales promotions.

Note Under most circumstances, this field should be left set to 1. Because of the compounding effect produced by safety stock, even small changes in the variability factor can have significant impact on sizing calculations.

Demand Percent

If the supplying source for this loop provides the same item to more than one supermarket, enter the percentage of that source's total demand consumed by this supermarket.

Pack Quantity

Specify the number of items that are included in the standard packaging for this item.

For example, if an item is packaged in a box of 25, set the field to 25.

The system uses this value to calculate the quantity per kanban. Order Quantity and Buffer Maximum should be multiples of this value.

Count Tolerance

Specify the allowable percentage of variation between the kanban inventory or WIP quantity (depending on the location type specified in Kanban Supermarkets), calculated as the number of full kanbans times the kanban quantity, and the standard inventory balance, adjusted by the quantity represented by Lag Factor.

The default is 5%. Inventory Validation Report marks the loop as out of tolerance if the difference between the inventory quantities varies by more than this percentage.

Lag Factor

Specify the number of kanbans that are expected to be in process at any particular time. The default is 0 (zero).

When you run Inventory Validation Report for this loop, the system accounts for the kanban quantity currently in process by multiplying the Lag Factor value by the kanban quantity, then subtracting the result from the standard quantity on hand. It then compares the result with the kanban inventory level and determines if the difference is out of tolerance based on the specified percentage. You can specify a lag factor when a kanban item is a component that is backflushed when the parent item is received sometime later than when the kanban is reported as consumed.

Buffer Modified

The system indicates whether the initial buffer size has been updated.

Critical Limit

Specify the percentage of the Buffer Maximum value or quantity of items the system should use in determining whether the supermarket buffer size is too small.

Use Limit Display to control whether this value is a percentage or a quantity. When you run Historical Buffer Evaluation, the system analyzes the actual or projected performance of the buffer size as it relates to this value.

Based on the result, it may display recommendations for increasing the buffer maximum. This cannot be greater than the value in Warning Limit.

You also can update this field using Historical Buffer Evaluation.

Warning Limit

Specify the percentage of the Buffer Maximum value or quantity of items the system should use in determining whether the supermarket buffer size is too large.

Use Limit Display to control whether this value is a percentage or a quantity. When you run Historical Buffer Evaluation, the system analyzes the actual or projected performance of the buffer size as it relates to this value.

Based on the result, it may display recommendations for increasing the buffer maximum. This cannot be less than the value in Critical Limit.

You also can update this field using Historical Buffer Evaluation.

Average Demand Template

Optionally, specify the template used to calculate the value in Daily Demand when you run Average Demand Calculation. The template specifies the number of past and future days used in the demand calculation. The field is validated against records set up in Demand Calculation Template.

Note Use Demand Calculation Template to update the average demand template for multiple kanban loops at the same time

Demand Modified

The system indicates whether the value of Daily Demand has been updated from its initial setting.

Average Calc Inv Method

Specify the average inventory calculation method for this loop. This field defaults from Kanban Items.

Package Type

Optionally, specify the type of packaging that holds the quantity shown in Pack Quantity. For example, this could be Box or Case. This field is for reference only. Its value is not validated.

Safety Stock

Optionally, enter the quantity that is maintained at the supermarket as a buffer to offset unanticipated fluctuations in supply or demand, such as material shortages or special customer orders.

Leave this field set to 0 (zero) to have the system calculate a quantity based on the settings in Safety Stock Method, Service Level, and Peak Average Days when you run Kanban Safety Stock Calculation. Other program that can update safety stock is Historical Buffer Evaluation.

This must be less than the values entered in Order Point and Buffer Maximum.

Safety Days

Enter the number of days of demand to be covered by safety stock quantity. When you run Kanban Safety Stock Calculation or other programs that update safety stock such as Historical Buffer Evaluation, the system updates the safety stock quantity based on the average demand over this number of days.

Note When Safety Stock Method is Manual, the system uses both Safety Stock and Safety Days to determine safety stock. For example, if the average daily demand is 50 and you enter 50 in Safety Stock and 1 in Safety Days, the system combines these to provide total safety stock of 100.

Service Level

Enter a service level associated with this item for this kanban loop. This number cannot be less than 50.00 (the default) or greater than 99.99. The service level is the percentage of time that inventory for this item does not typically run out before the replenishment time has been reached.

For example, 50.00 means that 50% of the time, you will run out of this item before reaching the replenishment time. Higher numbers mean that the supermarket maintains more inventory for the item in the form of safety stock.

The way this field is used varies by the value of Safety Stock Method.

- Manual: Do not enter a value in Service Level. When Daily Demand in the Supermarket Item Detail panel is greater than 0 (zero), the system calculates the service level based on standard deviations on average demand. When Daily Demand is 0, the system does not update the Service Level field.

- Simple: Enter a value in Service Level. It is required to determine a system-defined service factor that is used in the safety stock calculation.
- Peak: The service level is calculated based on standard deviations on daily demand.

Supermarket Fax

Optionally, enter a fax number for the supermarket supplied by this kanban loop. These values are used when a kanban dispatch list is output as a fax. When dispatch lists are processed, kanban data can be sorted by supplying source and/or consuming destination.

The dispatch list can be faxed or e-mailed to the supplying source, consuming destination, or both. When these fields are blank, the system uses the information specified in Kanban Supermarkets.

When primary and secondary fax numbers are specified, both numbers, separated by a comma, are printed on the first line of the fax report.

E-mail

Optionally, enter an e-mail address for the supermarket supplied by this kanban loop.

These values are used when a kanban dispatch list is output as e-mail.

When dispatch lists are processed, kanban data can be sorted by supplying source and/or consuming

destination. The dispatch list can be faxed or e-mailed to the supplying source, consuming destination, or both. When these fields are blank, the system uses the information specified in Kanban Supermarkets.

One/Two Card

Enter either One or Two to indicate the number of cards printed per container.

- In a one-card loop, a single card both controls inventory movement and authorizes replenishment of the kanban quantity.
- A two-card system has a move kanban and a replenishment kanban. A two-card system is used when the movement of a container of parts may not trigger an immediate replenishment of that part.

Carrier

The carrier specified for the supplier in Suppliers.

Carrier Email

If an e-mail address is specified in Carriers, it defaults to the Carrier E-Mail field. You cannot update it.

Safety Stock Template

Optionally, specify the template used to calculate safety stock when you run Kanban Safety Stock Calculation. The template specifies the number of past and future days used as the basis of demand for safety stock calculations.

The field is validated against records set up in Demand Calculation Template.

Note Use Demand Calculation Template to update the safety stock template for multiple kanban loops at the same time.

Safety Stock Method

Specify the method used to determine safety stock for this item when you run a program that updates safety stock.

- Manual: No safety stock calculation takes place. Specify safety stock for this item by entering a quantity in Safety Stock or a number of days in Safety Days. If there is a value in the Daily Demand Field in the Supermarket Item Detail panel, the system calculates a value for Service Level based on standard deviations on the daily demand and an associated service factor. Otherwise, the service level is not calculated.
- Simple: The system calculates a standard deviation of average demand over the number of days in the planning horizon, which is the total number of historical and future days specified in Demand Calculation Template. It then multiplies this demand by a service factor associated with the specified service level. To use this method, you must enter a valid value in Service Level.
- Peak: The system calculates the average demand for each n-day period within the planning horizon defined in Demand Calculation Template, where n is the value specified in Peak Average Days. Safety stock is based on the highest demand during an nday period. When you use this method, the Service Level is calculated based on standard deviations on daily demand.

Peak Average Days

When Safety Stock Method is Peak, enter the number of days the system should use as a basis for determining peak average demand. The system calculates the average demand for each period of this number of days over the horizon defined in Demand Calculation Template.

The highest average demand over one of those periods is the basis of the safety stock calculation. When Safety Stock Method is Peak, you must enter a value in this field.

Supermarket Fax 2

You also can enter an alternate fax number.

When primary and secondary fax numbers are specified, both numbers, separated by a comma, are printed on the first line of the fax report.

Kanban Planner

Optionally, enter the code for the planner who is responsible for this kanban loop. If you enter a value, it is validated against codes entered in Generalized Codes for field knb_planner.

Card Tracking Control Panel

Use the Card Tracking Control panel to specify detailed information about the cards used in a kanban loop.

Replenishment Card Subpanel

Order Quantity

Enter the number of units the supplying source will replenish when the inventory level at the supermarket reaches the order point. This can be represented by a single card or by an accumulated quantity from multiple cards. This should be a multiple of the value specified in Kanban Quantity.

Number of Cards

Enter the number of cards to be included in this kanban loop. The system may update this field when the supermarket maximum buffer size is modified.

Kanban Quantity

Enter the number of items per kanban.

Kanban Quantity represents the actual quantity to be placed in each container, regardless of the capacity of that container. For example, you use a standard container that holds 100 items, but you only want 50 items at a time. Kanban Quantity must be the same as or less than Container Capacity. It should be a multiple of the value specified in Pack Quantity.

Container Capacity

This field identifies a physical constraint placed on the container or item, which could be any of the following:

- Maximum quantity held by a carton or container
- Standard supplier package size
- Production constraint such as size of an oven tray

- For unwieldy or heavy items, the maximum amount that can be handled

The system displays a warning message if you set this field to 0 (zero).

Container Type

Optionally, enter the type of container associated with this kanban item when it is replenished, such as bin or carton. This field defaults from Kanban Items. If you enter a value, it must be defined in Kanban Container Types. This information is printed on kanban cards.

Print Quantity

Select this checkbox to print the kanban quantity on each kanban card. This value defaults from Kanban Control.

Print Barcode (Item Number/ ID)

Select the Item Number and ID checkbox to print a kanban item or ID barcode respectively on each kanban card. This value defaults from Kanban Control.

User Reference

Optionally, enter an alphanumeric reference to this kanban loop. This value displays on various reports.

Order Quantity Multiple

Optionally, enter the number of kanbans that serves as the lowest common denominator for system loop-sizing calculations. If you do not want to enforce an order quantity multiple, leave the field set to the default 0 (zero).

If you enter a value here, the kanban workbenches increase the order quantity until it is a multiple of this value. For example, if you enter 3, the system cannot size the loop at 2 or 5 cards. Instead, it rounds up the order quantity to the next multiple of 3, resulting in a number of cards that is also a multiple of 3: a loop size of 2 would become 3, a loop size of 5 would become 6, and so on.

Note The system applies fractional kanban and card reporting method logic before adjusting the order quantity to meet the order quantity multiple requirement.

Ship Delivery Pattern Code

Optionally, enter a one or two-character code specifying the required routine ship or delivery patterns for this kanban loop. Entries are validated against codes defined in Generalized Codes for field sch_sd_pat.

The ship/delivery pattern typically specifies the frequency when shipments or deliveries are accepted; for example, any day Monday

through Friday, or Tuesday only. This field is for reference only and can appear on some selected reports.

Point of Use Location

Optionally, enter a code representing the location where the kanban item supplied by this loop is used. Entries are validated against codes defined in Locations.

Delivery Location

Optionally, enter a code representing the location where the kanban item supplied by this loop is delivered. Entries are validated against codes defined in Locations.

SDT Code

Optionally, enter a two-character shipping delivery time (SDT) code associated with this kanban loop.

SDT codes typically relate to exact times for supplier deliveries. Daily item requirements can be split into hour and minute buckets based on these codes. This field is for reference only.

Move Card Subpanel

If you are setting up a two-card loop, a second set of fields displays so you can enter data for the move card.

Card Dispatch Panel

This panel defines the accumulator method for the loop to control how empty cards are authorized for production based on specified quantity or interval parameters.

Dispatch List

Indicate whether to allow selection of this kanban when dispatch lists are processed.

- Unselected: This kanban is ignored when dispatch lists are generated.
- Selected: This kanban can be selected for dispatch list processing.

Replenishment Time (D H:M:S)

Enter the time required to replenish the item in days, hours, minutes, and seconds. This value is used in the calculations performed by the kanban workbenches. If you modify the replenishment time in that program and save your changes, the system updates this value.

Replenishment time includes the total time between recognizing that a product should be reordered and having the product supply available for use. This field represents a contract between supplying and consuming sites, reflecting maximum turnaround time.

FIFO Time Interval (D H:M:S)

Enter the amount of time—in days, hours, minutes, and seconds—required for this item to complete the total number of internal FIFO processes defined for the kanban loop.

Note You can track lead time associated with subcontract operations separately using the FIFO Time External field.

This value is used in due date calculations and the calculations performed by the kanban workbenches. If you modify the internal FIFO time in that program and save your changes, the system updates this value. This field applies only to loops that are supplied by a primary process that includes one or more FIFO processes.

Card Reporting

Specify the method used for kanban card piece reporting. This value defaults from Kanban Control. Valid values are:

- Standard
- Add
- Remove

This setting affects kanban sizing calculations performed using the kanban workbenches.

Run-Out Option

Select this checkbox if the source that supplies this item runs the quantity needed to use the entire supply of a given material regardless of the kanban quantity.

Otherwise, leave unselected. This value defaults from Kanban Items.

Especially in situations with extensive setup times to change over to a key material, it is not always efficient to set up a work center for just the kanban quantity. Instead, you can make enough items to consume an entire bulk quantity of that material.

For example, if changing over a process to set up a coil of steel takes significant time, you could consider using the entire coil each time you run the item. The total amount of material available, the quantity required to produce each item, and the amount of time required to change over to a new supply can be useful information for analyzing kanban setup and sizing alternatives. This field is for reference.

Accumulator Type

Specify how the system accumulates replenishment cards for this kanban item after you record them using the Consume/Post action in Kanban Cards. You can accumulate cards based on either quantity-based or interval-based criteria.

- Quantity: When the sum of empty replenishment cards reaches the total amount specified in Order Quantity, the system authorizes all empty cards in the kanban loop regardless of how much time has elapsed.
- Time: When you use this type, enter a time in Accum Interval. Each time the specified interval elapses, the system looks at all empty cards in the loop. If the total of the individual cards meets the order quantity, all cards are automatically authorized.
- Schedule: Access the fields on the right side of the frame to specify days and times when the system evaluates the number of empty cards. If the total of the individual cards meets the order quantity, all cards are automatically authorized.

Run Kanban Accumulator to update card status and display the status changes in real time.

Accumulator Interval (D H:M:S)

When Accumulator Type is set to Time, specify in days, hours, minutes, and seconds how often the system can authorize empty kanbans for this item, assuming that the total of empty kanbans has reached the value in Order Quantity.

Note Accumulator Interval and Next Date are not accessible when Accumulator Type is Quantity.

Next Date

When Accumulator Type is Time or Schedule, the system calculates and displays the next date that Accumulator Monitor will check for empty cards for this loop, based on the value of Accumulator Interval or the Work Day and Time settings. You can manually override these system-calculated values to check accumulators earlier or later.

Next Time (H:M:S)

When Accumulator Type is Time or Schedule, the system calculates and displays the next time that Accumulator Monitor will check for empty cards for this loop, based on the value of Accumulator Interval or the Work Day and Time settings.

You can manually override these system-calculated values to check accumulators earlier or later.

Next Time (H:M:S)

When Accumulator Type is Time or Schedule, the system calculates and displays the next time that Accumulator Monitor will check for empty cards for this loop, based on the value of Accumulator Interval or the Work Day and Time settings.

You can manually override these system-calculated values to check accumulators earlier or later.

Regenerate Required

This display-only field indicates whether loop information has changed that might require you to regenerate and reprint kanban cards using the Create action in Kanban Cards.

For example, if you print the kanban quantity on your cards and loop resizing updates that quantity, you can regenerate and print correct cards.

Kanban Label

Enter the optional identifier for a kanban label definition associated with this loop. This value must be defined in Kanban Labels. Kanban label definitions are currently for reference only.

Extension (D H:M:S)

Enter the extension days and time.

Fractional Kanban

Specify the fractional kanban percentage for this loop. It cannot be greater than 99%. This field defaults from Kanban Control.

Work Days / Time

When Accumulator Type is Schedule, specify whether the system can authorize empty kanbans for this item on this day of the week, assuming that the total of empty kanbans has reached the value in Order Quantity.

For each day that is selected, you can specify the time of day that the system searches for empty cards.

Note These fields are accessible only when Accumulator Type is Schedule.

Dispatch Options Subpanel

Use this subpanel to define how dispatch lists will be used for this loop. Dispatch lists are generated in report format and can also be printed in fax format, or sent using e-mail or EDI ECommerce.

You can generate and send dispatch lists sorted by supplying source, consuming destination, or both.

Note This frame displays only when Dispatch List is Yes in the previous Card Tracking Control panel.

Blanket PO Release

Specify whether dispatch list processing attempts to release a PO from a blanket order.

When this is selected and you enter a valid blanket PO number in the Purchase Order field in the Source Master Data panel, dispatch list processing uses that blanket order as the default. When the loop

does not specify a blanket PO number, the system attempts to find an available blanket order matching the supplier and item.

Fax Dispatch List

Indicate whether to allow selection of this kanban when dispatch lists are processed in fax format. When this checkbox is unselected, this kanban is not included in dispatch list fax reports.

Source Fax

Enter the fax number for the supplying source. This number is used when dispatch lists are reported by source. When this field is blank, the system uses the fax number defined in the supplier or site address. When a dispatch list is sorted by supplying source and printed in fax format, this fax number, preceded by a # symbol, is printed on the first line of the report.

E-mail Dispatch List

Indicate whether to e-mail dispatch lists for this kanban. When the checkbox is unselected, this kanban is not e-mailed or included in dispatch list e-mail reports.

Source E-mail

Enter the e-mail address for the supplying source. This address is used when dispatch lists are reported by supplying source.

EDI

Select this checkbox to generate dispatch lists for this loop in electronic data interchange format for export to the loop supplier using EDI ECommerce.

When you select this option for a supplier kanban, the system verifies that an EDI ECommerce trading parameter called Send Kanban Dispatch exists for the supplier and has been set to Yes. This is a logical parameter in Trading Partner Parameters. If this is not defined, a warning displays.

Source Fax 2

An alternate source fax.

Kanban Transactions Control Panel

The Kanban Transaction Control panel includes settings that control system behavior when transactions are recorded for the loop, including time parameters to prevent kanban transactions from being entered multiple times and to help identify missing cards.

The panel also includes inventory control settings that specify whether recording transactions for the loop records inventory receipts and creates operation-related transactions such as component backflush.

Replenishment Card Subpanel

Regeneration Enforcement

Specify how cards are managed for this loop when they are recorded in one of the programs on the Kanban Transactions Menu and the system determines that cards should be regenerated. This occurs when certain card-detail values are no longer synchronized with loop values. This field defaults from Kanban Control.

Valid values are:

- None (the default)
- Warning
- Error

Kanban Cycle Enforcement

Indicate the level of minimum kanban loop cycle enforcement. This field defaults from Kanban Control.

Valid values are:

- None (the default)
- Warning
- Error

Quantity Violation Enforcement

Use this field in combination with Rounding Threshold to control how the system manages partial kanban quantities for this loop during certain automated processing functions.

These functions determine which cards are selected based on loop and quantity information rather than card ID. The system uses the logic defined here when the item quantity called for does not represent an exact number of kanbans.

Example A file imported using Kanban Consumption Import includes a quantity of 47. However, the kanban quantity is 20—or 2 cards with a remaining quantity of 7. The system uses Quantity Violation Enforcement and Rounding Threshold to determine whether to round the number of cards selected up to 3 or down to 2, or to display an error message and not select any cards for update.

Valid values are:

- Round (the default). The system rounds the remaining quantity based on the value specified in Rounding Threshold and generates kanban history records without acknowledging that rounding took place.

- Warning. The system rounds the remaining quantity as specified in Rounding Threshold, creates kanban history records, and displays a warning message on the output report.
- Error. The system does not complete processing for the loop unless the quantity specified is an exact multiple of the kanban quantity. An error message displays on the output report.

Rounding Treshold Percent

Specify the percentage of kanban size the system uses to round off partial kanban quantities in determining the number of cards to select for automated processing.

This value is used in combination with Quantity Violation Enforcement. It applies only when that field is set to Round or Warning. When it is Error, the system does not process loops unless the specified quantity is an exact multiple of the kanban quantity. Leave Rounding Threshold set to the default 100.00 to always round partial quantities down. Change it to 0.00 to always round them up. Any other value represents the percent of the kanban quantity that must exist before the system rounds up to select an additional card. If the excess quantity is less than this percentage, the system rounds down.

Example The kanban quantity is 20, and Rounding Threshold is 25.00%. This means that any remaining quantity of 5 or more will be rounded up. A record imported using Kanban Consumption Import includes a quantity of 47, or 2 cards with a remaining quantity of 7. Since 7 is greater than the threshold of 5, the system rounds up and selects 3 cards. In the same scenario with Rounding Threshold set to 50.00%, the system would only select 2 cards, since the remaining quantity of 7 does not meet the threshold requirement of 10.

Minimum Cycle (D H:M:S)

Enter the minimum kanban loop cycle time in days, hours, minutes, and seconds. Values default from Kanban Control. Leave these fields blank if you do not want to enforce a minimum kanban loop cycle.

Maximum Cycle (D H:M:S)

Enter the maximum kanban loop cycle time in days, hours, minutes, and seconds. Values default from Kanban Control. Leave these fields blank if you do not want to enforce a maximum kanban cycle.

Decrease at Consume

Specify whether you want to have cards that are no longer needed removed from this loop the next time they are consumed, as well as whether the system prompts for confirmation before removing them. This value defaults from Kanban Control.

Note Card Reconciliation must be enabled in Kanban Control to activate the Decrease at Consume feature on the system level. When it is unselected, this field has no effect.

Backflush Component

Indicate whether the system should automatically generate the following types of transactions when this kanban-controlled item is received into the supermarket:

- Backflush components from the bill of material.
- Record labor based on routing information.
- For loops that include subcontract operations, create a purchase receipt.

This field defaults to selected when the supplying source is a manufacturing process. Otherwise, it is unselected and you cannot update it.

PO Receipt Data Entry

Specify whether the system prompts for purchase order receiving information when a replenishment card from this loop is recorded in the Fill/Receive action in Kanban Cards. This value defaults from Kanban Control.

When the checkbox is selected, the system displays optional data-entry fields for a receiving note and packing slip number when the card is recorded.

Lot Entry

Specify whether the system prompts for a lot number and reference when a replenishment card from this loop is recorded in the Fill/Receive action in Kanban Cards. This value defaults from Kanban Control.

When the field is selected, the system displays optional data-entry fields for a lot number and reference when the card is recorded.

Impact Inventory

Indicate whether kanban transactions for this item will impact inventory and the GL.

- Selected: The system automatically generates the appropriate inventory and GL transactions for each type of kanban transaction. This is the default value for new kanban loops when the consuming supermarket is an inventory location.
- Unselected: Kanban transactions do not affect inventory balances or the GL. Only a kanban transaction record is created. In a high-volume manufacturing environment where inventory is tracked on a summary level, you should leave this checkbox unselected. This

is the default value when the consuming supermarket is a WIP location.

You cannot select this checkbox for an item that has one of the following characteristics:

- Family or configured item (Purchase/Manufacture is F or C in Items or the Site Planning Exceptions panel in Items for the supplying site)
- Phantom item (Phantom is selected in Items or Site Planning Exceptions panel in Items for the supplying site)
- Lot/serial-controlled item (Lot/Serial Control is not blank in Items or Site Inventory Exceptions for the supplying site)
- Base process or co/by-product item

Use Cumulative Order

Indicate whether the system should use Advanced Repetitive logic to report transactions against cumulative orders when recording fill or ship transactions on replenishment cards for this loop. The default is unselected. You can only select this field under these conditions:

- Impact Inventory is selected.
- Enable New Repetitive is selected in Repetitive Control.

When the field is selected, a valid routing must exist for the item. By generating quantity and cost postings to the cumulative order and associated operation and bill of material records, this feature ensures that cumulative orders include accurate information for items that use kanban.

Use Control Prog Tran Settings

Specify whether sequence enforcement and automatic card print values for this loop are determined by Kanban Control or by Kanban Masters.

- Unselected (the default): The system displays the Kanban Transaction Event Control panel after Save. Use it to specify sequence enforcement and automatic print values that apply only to this loop.
- Selected: This loop uses the values specified in Kanban Control. You cannot update them for this loop record.

Location Type

The system displays the value set in Kanban Supermarkets.

Inventory Location

When Impact Inventory is selected, specify the location affected by inventory transactions created by the Fill/Receive action in Kanban Cards. This defaults from Kanban Supermarkets.

When Impact Inventory is unselected, you cannot update the field.

The system validates this field based on the Automatic Locations setting in Sites:

- When Automatic Locations is selected, the system displays a warning if the location has not been defined. It creates a temporary location the first time a card for the loop is processed by the Fill/Receive action in Kanban Cards.
- When Automatic Locations is No, the system displays an error message if the location has not been defined in Locations.

Modify Inv Data

Specify whether users can update default values when recording kanban fill/receive or ship transactions for this loop. This defaults from Kanban Control.

Modify Inventory Treshold

Specify the maximum percentage of the kanban quantity that is considered an acceptable difference between the kanban quantity and the quantity actually recorded in the Fill/Receive action or the Ship action in Kanban Cards. This defaults from Kanban Control.

Receipt Shortfall

Specify the cumulative difference between the expected total receipt quantity (based on the number of times a card was received and the kanban quantity) and the actual receipts. For new loop records, this field defaults to 0 (zero). Each time a card is recorded in the Fill/Receive action in Kanban Cards, the system determines if the quantity received is different from the kanban quantity. If so, the difference is applied to this field:

- For over-receipts, the additional quantity is subtracted from the Receipt Shortfall total.
- For under-receipts, the quantity is added.

This field is updated automatically only when Modify Inv Data is selected. Otherwise, the amount received is automatically set to the kanban quantity, so differences do not occur.

Move Card Subpanel

If you are setting up a two-card loop, a second set of fields displays so you can enter data for the move card.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the kanban master.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Select Master Notes

Enables master comments to be attached to the kanban master. You can enter the master reference and type in a pop-up frame or leave the fields blank to display a selection list of existing master comments. Select one or more of them for copying into the kanban master.

Note Define master comments with Master Notes. You can use master comments to create reusable text templates that can be pulled into change documents and then edited. They might include legal disclaimers, checklists, standard operating procedures, company policies, or internal surveys.

Notes

Enter the body of the note attached to the kanban master.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Kanban Masters

1. Go to **Kanban Masters**.
2. Click **New**.
3. Complete the fields described in Kanban Masters View on page 4183.
4. Click **Save** to create the new record.

Modifying Kanban Masters

1. Go to **Kanban Masters**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Kanban Masters

1. Go to **Kanban Masters**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Kanban Card Create Action

Use this action to:

- Create kanban cards for a new loop that has been manually sized by entering the number of cards and quantity per card in Kanban Masters.
- Regenerate a new set of cards when loop information has been changed, making the information on the existing cards out of date.
- Add a limited-use card to a loop that has already had the required number of cards created. For example, you might do this when building inventory for special requirements such as seasonal demand. After adding a card in this program, use Kanban Cards to define limitations on the card's life based on either the number of fill/consume cycles or an active date range.

  Note You also can use Kanban Multi-Card Edit action to create, define, and print limited-use cards with a single application. Optionally use Kanban Cards to set limited-use parameters for an existing card.

For loops that have already had cards created, the system determines whether cards need to be regenerated, depending on whether loop information has changed. Regenerated Required is selected when the kanban quantity, source, bill of materials (BOM), or routing has changed.

You can optionally deactivate existing cards at the same time. If you do not, the system automatically deactivates the cards the next time they complete a cycle.

Note If you choose to deactivate cards, you can no longer record them using programs on the Kanban Transactions menu, even if they represent full kanbans.

For new loops, the system displays the number of replenishment and move cards from Kanban Masters. These values are either entered manually or updated automatically based on calculations in the kanban workbenches or other programs that perform resizing.

After creating or regenerating cards, you can optionally print them using this program. Otherwise, you can use Kanban Multi-Card Print.

Main Panel

Item

The item number for identifying the kanban loop that will have cards created. Defaults from the selected record in Kanban Masters.

SM Site

The site code of the destination supermarket for identifying the kanban loop that will have cards created. Defaults from the selected record in Kanban Masters.

Supermarket

The destination supermarket ID for identifying the kanban loop that will have cards created. Defaults from the selected record in Kanban Masters.

UM

The unit of measure for the kanban cards. Defaults from the selected record in Kanban Masters.

Step

The process step number for identifying the kanban loop that will have cards created. Defaults from the selected record in Kanban Masters.

Source Type

The source type for identifying the kanban loop that will have cards created. Defaults from the selected record in Kanban Masters.

Source Data Panel

Depending on the source type, the Source Data panel will display the following fields:

- Inventory – Source Site, Supermarket
- Process – Source Site, Process, Final Assembly, Start Operation, End Operation,
- Use FIFO Supplier – Supplier, Purchase Order, Line

Source Site

Displays the ID of the site where the supermarket that supplies this loop is located.

Note This field only displays when the Source Type is Inventory or Process.

Supermarket

Displays the identifier for the supermarket that supplies this loop.

Note This field only displays when the Source Type is Inventory.

Process

Displays the code representing this process.

Note This field only displays when the Source Type is Process.

Final Assembly

A system maintained field recording the work order number for the final assembly.

Note This field only displays when the Source Type is Process.

Start Operation

The start routing operation that will be considered in determining the setup, cycle, and work time for this process.

Note This field only displays when the Source Type is Process.

End Operation

The end routing operation that will be considered in determining the setup, cycle, and work time for this process.

Note This field only displays when the Source Type is Process.

Use FIFO

Select this checkbox to display an additional frame that lets you enter one or more references to first-in, first-out (FIFO) lane processes used to produce this kanban item.

Note This field only displays when the Source Type is Process.

Supplier

Displays the supplier.

Note This field only displays when the Source Type is Supplier.

Purchase Order

Displays the purchase order number for identifying the kanban loop that will have cards created.

Note This field only displays when the Source Type is Supplier.

Line

Displays the purchase order line number for identifying the kanban loop that will have cards created.

Note This field only displays when the Source Type is Supplier.

Kanban Cards Panel

Regenerate Required

Select this checkbox to default the Regenerate Cards checkbox to selected.

When Regenerate Required is unselected, the Regenerate Cards checkbox defaults to unselected. If you change it, the system replaces the current cards with identical cards having new kanban ID numbers, and displays a message indicating the number of cards.

Replenishment Cards

Specify the number of replenishment cards to be created for the loop. For one-card loops, you cannot update the Move Cards field.

The default is calculated based on values in Kanban Masters using the following formula:

Additional Cards = (Buffer Maximum - Working Buffer)/Kanban Quantity

If the two buffer sizes are equal or the result is a negative number, the field is set to zero.

Print Cards

Select this checkbox to print a report after submitting the action.

Regenerate Cards

Select this checkbox to have the system regenerate kanban cards when loop information has changed. This field defaults to selected when the Regenerate Required checkbox is selected, indicating that the system detects changes in loop information since the cards were created or last regenerated.

When Regenerate Required is unselected, the field defaults to unselected. If you change it, the system replaces the current cards with identical cards having new kanban ID numbers, and displays a message indicating the number of cards.

Use Phase-Out Method to specify how the system removes the old cards from the loop.

Phase-Out Method

Displays the method used by card management and automatic reconciliation functions when removing cards from kanban loops.

Move Cards

Specify the number of move cards to be created for the loop. This field can be updated only for two-card loops.

The default is calculated based on values in Kanban Masters using the following formula:

Additional Cards = (Buffer Maximum - Working Buffer)/Kanban Quantity

If the two buffer sizes are equal or the result is a negative number, the field is set to zero.

Using the Kanban Card Create Action

Use the **Kanban Card Create** action in **Kanban Masters** to generate new kanban cards used in lean manufacturing for replenishment and inventory flow.

1. Go to **Kanban Masters** and enter the required information in the filter to select the desired records.
2. Go to Actions > Individual > Kanban Card Create. The **Kanban Card Create** action view appears.
3. Enter the applicable information and required settings.
4. Click **Submit**, to complete the action

Supplier Kanban Consumption Action

The selection logic is based on loop data rather than specific kanban card IDs.

When a card is consumed, the system sets the card status to Authorized and creates a kanban transaction history record (kbtr_hist) with an event type of Consume.

When you enter selection criteria, the system identifies associated kanban loops. It then sequences active cards in selected loops based on the latest kanban transaction event in this order:

1. Fill
2. Ship
3. Acknowledge
4. Authorize
5. Empty Accumulate

Note Only Fill and Consume events apply to move loops.

When multiple cards are associated with the same event, they are sequenced by authorize date and time starting with the earliest. If consuming a card would generate an error message based on transaction sequence rules defined in Kanban Masters, the card is excluded from selection.

In the Kanban Loops panel, the system displays a list of loops that have cards eligible for consumption. It includes the total number of active cards and the number of cards currently with a Full status.

When you select the Supplier Kanban Consumption action, the system displays a grid showing the total number of cards that will be updated, as well as the total quantity they represent. Optionally, you can include a list of the IDs of consumed cards on the output report. When you press Submit, the system changes the status of the specified number of cards for each loop to Authorized or Empty Accumulate, based on the accumulator logic specified in Kanban Masters. It also creates a kbtr_hist record for a Consume event.

Criteria

Search Criteria

Displays the selected filters in the Kanban Masters browse.

Options Panel

Supplier

Optionally, enter a supplier address to be used in selecting kanban cards for consumption. This must be a valid, active supplier code.

Kanban Planner

Optionally, enter the ID of the kanban planner responsible for loops that will have cards selected for consumption.This field is validated against codes entered in Generalized Codes for field knb_planner. Planners are associated with kanban loops in Kanban Masters.

Search

Click the Search button to populate the Kanban Loops grid with the selected settings in the Criteria and Options panels.

Reset Criteria

Click the Reset Criteria button to reset the fields in the Supplier Kanban Consumption action.

Kanban Loops Panel

The system populates the Kanban Loops panel grid according to the settings in the Criteria and Options panel.

Selection Checkbox

Select the checkbox to choose the kanban cards for consumption.

Item

Displays the item for the kanban loop.

Description

Displays the item description for the kanban loop.

Supermarket Site

Displays the supermarket site for the kanban loop.

Supermarket

Displays the supermarket for the kanban loop.

Step

Displays the step for the kanban loop.

Supplier

Displays the supplier for the kanban loop.

Purchase Order

Displays the purchase order for the kanban loop.

Line

Displays the purchase order line for the kanban loop.

Kanban Quantity

Displays the kanban quantity for the kanban loop.

Active Cards

Displays the active cards for the kanban loop.

Full Cards

Displays the full cards for the kanban loop.

Cards to Consume

Enter the cards to be consumed.

Note The Cards to consume cannot be greater than the Active Cards field

Using the Supplier Kanban Consumption Action

Use the **Supplier Kanban Consumption** action in **Kanban Masters** to select a batch of cards to be recorded as consumed.

1. Go to **Kanban Masters** and enter the required information in the filter to select the desired records.
2. Go to Actions > Bulk> Supplier Kanban Consumption. The **Supplier Kanban Consumption** action view appears.
3. Enter the information in the Options Panel and click Search. Select the applicable lines in the Kanban Loops grid and enter the required value in the Cards to Consume column.
4. Click **Submit**, to complete the action

Kanban Processes

You also can associate items with processes in Kanban Masters and then update the process-related characteristics as needed using this program.

In the kanban context, a process is a logical set of operations or manufacturing cells that supply a kanban supermarket.

This program provides time data used in every-part-every interval (EPEI) calculations, as well as other system capacity and sizing calculations. If you have existing manufacturing routings, you can specify the operation codes associated with each item produced by the process, then use Kanban Process Item Operation Roll-up to provide total time requirements for each item. Otherwise, you can enter several categories of process time manually for individual items. When you run Kanban Basic Process Calculations, the system calculates totals for the entire process.

Example

A routing includes operations 10 through 60. While there is continuous flow between 10, 20, 30, and 40, operation 40 provides subassemblies to multiple downstream work cells and feeds work-in-process supermarket W. Operation 50 takes material from the supermarket, does an initial finishing step and moves material in continuous flow to operation 60, which does final finishing and supplies finished-goods supermarket F.

You can define process A to include operations 10, 20, 30, and 40, then reference it as the supplying source for supermarket W in Kanban Masters. Then, process B could consist of operations 50 and 60. A second loop set up in Kanban Masters to supply supermarket F would reference process B as the source.

Pacemakers

In a lean manufacturing environment, the pacemaker is the process that responds most directly to final demand. Often, this is near the end of the production cycle. For example, the pacemaker might be the final assembly process that supplies a finished-goods supermarket from which customer orders are filled.

You typically schedule production based on the pacemaker process. For example, you can use Preliminary Level Schedule with Pacemakers Only set to Yes to determine the number of units each shift needs to produce to meet demand.

Define a pacemaker process by setting Process Function to PACE.

Note An item at a step can be associated with only one pacemaker process within a site. However, you can associate the same item at a different step with the same pacemaker.

FIFO Processes

First-in, first-out (FIFO) lanes are a way of managing inventory between processes when a supermarket buffer is not necessary, but continuous flow is not practical. For example, a FIFO lane might be used in front of a large batch operation where dissimilar parts go through a process like welding, plating, anodizing, stamping, painting, and so on.

The first process receives the signal to produce from the supermarket (or from a FIFO lane from a previous process) and moves material to the subsequent process. The item produced at the second process is run in the order that it is received. Completed material moves to the supermarket or to another FIFO lane.

Based on how closely the flow of kanban material is controlled, cards can be recorded using the Ship action in Kanban Cards as the material moves through a series of FIFO lanes. The system tracks the material by assigning the cards an in-process status. When the last FIFO process is completed, the system changes the status to shipped to indicate that the kanban has moved to the next process or a supermarket.

Use Kanban Processes to define a FIFO process by setting Process Function to FIFO. Then, when you set up a kanban loop in Kanban Masters, you can reference one or more FIFO processes that handle the source material after it leaves the primary source process.

Time Calculations

You can associate production times with a kanban item at a process step in two ways:

- Specify required times in the fields on the right side of the frame. If you enter values in these fields, the system uses them to determine cycle and setup time for EPEI calculations.
- Specify a routing and a range of defined operations associated with it. In this case, you must also run Kanban Process Operation Roll-up. The system then displays the rolled-up times next time you access the item record in Kanban Processes.

You also can enter an EPEI manually. Optionally, you can have the system populate the field when you run EPEI calculation for this process. To use this feature, set EPEI Auto to Yes. When the field is Yes, the system also calculates and displays the number of operators required to meet production requirements.

When calculating EPEI for a process, the system does not consider time data for items with EPEI Auto set to No.

Use the Takt Time Calculation field to control whether the system updates takt and pitch time calculations. You can choose to have these values recalculated by Kanban Basic Process Calculations.

Kanban Processes View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the kanban process you are working on, including the site and process. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Site

Enter the code representing the site where this manufacturing process is located. This site must be defined in Sites.

Description

Enter a description for the process.

Process

Enter an alphanumeric code representing this process.

Available Time (H:M:S)

Optionally, enter the time, in hours, minutes, and seconds, that this process is typically available for production during a working day. The system uses this value in capacity calculations for supermarket and kanban sizing activities.

You can have the system calculate this value using Kanban Basic Process Calculations when Available Time is set to Yes. The calculation is based on the process calendar defined in Process Shifts, along with the number of days specified when you run Kanban Basic Process Calculations.

Note You cannot enter a value greater than 24 hours.

Process Function

Specify the way this process is used in a kanban loop. Valid values are:

- STD (Standard). This process is not a pacemaker or a FIFO process.
- PACE. This is a pacemaker process. In a lean manufacturing environment, the pacemaker is the process that responds most directly to demand from the end customer. Typically, it is associated with a limiting resource that controls the maximum speed at which the process can operate.When you run Preliminary Level Schedules report, you can limit the selection of processes to pacemakers.
- FIFO. This process represents a first-in, first-out (FIFO) lane. FIFO lanes are a flow-control technique used between two manufacturing processes. The first process receives the signal to produce from the supermarket (or from a FIFO lane from a

previous process) and moves material to the following process. The product produced at the second process is run in the order it is received. The completed material is then moved to the supermarket or to another FIFO lane. Only FIFO processes can be included in the FIFO Lane Detail frame in Kanban Masters.

Production Line

If you use flow schedules, specify the production line associated with this process. Production lines must be defined in Production Lines.

Note When Process Function is set to PACE, the system verifies that the specified production line is not referenced by another pacemaker process at the same site.

Process Planner

Optionally, enter a code representing the person who is responsible for planning this process.

This field is validated against values defined in Generalized Codes for field name knp_planner_id.

Note This is not the same as the buyer/planner code used elsewhere in the system.

Uptime

Specify the percentage of the standard work day when this process is available to do work. For example, if the machines used on this process are typically down for routine maintenance 5% of the time, set this field to 95.00. The default is 100%.

Resources

Enter the number of resources assigned to this process. The default is 1. You cannot enter a negative number.

When it calculates the amount of time this process is available to manufacture kanban items, the system uses this value as a multiplier for the Available Time field. For example, if the process is available for 7 hours each day but has 2 machines available, enter 2.0 in Resources. Process calculations then are based on a total of 14 available hours.

Location

Optionally, enter a location code associated with this process. This value must be defined in Locations.

When Component/Op Transactions is enabled in the Card Control Data of Kanban Masters for a loop supplied by this process, the system uses this location for component backflush and related transactions when the card is recorded using the Fill/Receive action in Kanban Cards. When this field is blank, the system uses item-site and item master data to determine the location.

Load Limit

Specify the percentage of the total calculated time available during the EPE interval that the system can use for planning the load on a kanban process. This value defaults from Kanban Control.

Kanban Processes Panel

Level Mix Sequence

Specify how the system determines the order in which items are processed:

- MFG_SEQ. This is the default for new process item records. The system uses the value in the Manufacturing Sequence field in the Kanban Process Details Panel. The workbench finds the last order processed (either the last item in a frozen period or, if no periods are frozen, the last item in the day just prior to the first schedule date used), and then increments by 1. For example, there are 10 items in the process with Manufacturing Sequence values of 1 through 10. If the last item processed was sequence number 4, then the workbench starts with item 5. When item 10 is processed, the system loops back to sequence number 1.
- OPER_ASC. The system uses the number of operators required in ascending order to determine the item sequence. The logic is similar to the MFG_SEQ except the number of operators is used instead of the Manufacturing Sequence number. The system starts with the next item (using ascending number of operators as the sort criteria) and loops around after the item with the lowest number of operators is processed. If multiple items exist with the same number of operators, the items are processed in ascending sequence of item number. The number of operators required is calculated by Kanban Basic Process Calculations. For example, you can use this method if you want to start the day with the minimum number of operators on the shop floor, and add operators as needed during the day.
- OPER_DSC. This is similar to OPER_ASC, except that the system begins by selecting the item that requires the highest number of operators. This lets you start the day with the most operators that will be required at any time during the day, and remove them as needed.

Regardless of which method is used, all items for the process must be scheduled sequentially before the system can start the scheduling sequence again from the beginning.

Takt Time Calculation

Takt time is the time in seconds required to produce one unit at the customer's rate of demand. Enter the source of the system-generated takt time calculation for this kanban process. Valid values are:

- EPEICalc. The system calculates takt time when you run Kanban Basic Process Calculations.
- LvlMixWB: This is valid only for pacemaker processes.

Lead Time Calculation

Specify the method the system uses for calculating the lead time for items produced by this kanban process. This value defaults from Kanban Control.

Valid values are:

- Variable (the default). The system calculates the item lead time dynamically based on the potential queue of other items. The item lead time is the sum of the setup and cycle times for the order quantity of all other items produced by the process, plus the setup and cycle time for one kanban quantity of the item itself.
- Fixed. The system sets the item lead time to the replenishment time for the loop specified in Kanban Masters.

EPEI Display Option

Specify the unit of time used in the EPE Interval field for this process:

- Months
- Weeks
- Days (default)
- Hours
- Minutes
- Seconds

The EPE interval is the minimum time a process needs to make all the items it produces based on average demand. This is often expressed in days. For example, when you are using days as the display option, an EPEI of 0.5 means that, allowing for changeover times, the process can produce all of its items twice each day.

Minimum Process EPEI

Optionally, enter the minimum every-part-every interval (EPEI) for this process. This value defaults from Kanban Control.

This field displays in the time units specified in the EPEI Display Option field.

Note This may not be the same as the Kanban Control value, which is entered in decimal days.

The EPEI is the minimum time a process needs to make all the items it produces based on average demand. Specify a minimum process EPEI, for example, when you never want to set up the machines in your processes more than once each day. If the calculated EPEI is

less than the specified minimum, the system uses the minimum value instead.

Process EPEI

Optionally, enter an EPE interval. To prevent the system from recalculating this value, set EPEI Auto to No. Otherwise, the system overrides the manual value with the calculated process EPEI when you run Basic Process Calculations.

You can use manual EPEI entry to prevent the system from including rarely produced items in process EPEI calculations. In that case, the EPEI value is for reference only.

The EPE interval is the minimum time a process needs to make all the items it produces based on average demand. This is often expressed in days. For example, when you are using days as the display option, an EPEI of 0.5 means that, allowing for changeover times, the process can produce all of its items twice each day. Use EPEI Display Option in the first frame to control which unit of time the system uses.

Pitch Quantity

Enter the item quantity associated with the pitch for this process. This should be a multiple of the value specified in the Kanban Quantity field for all the process items in the Card Tracking Control panel of Kanban Masters. Otherwise, the system displays a warning message and recommends an appropriate value to enter in the field.

When you run Kanban Basic Process Calculations, the system multiplies this value by the takt time to determine the pitch interval.

Pitch is a management time frame representing the frequency at which you withdraw finished goods from a pacemaker process as well as the corresponding amount of schedule you can release to that process.

Note Current functionality supports only fixed-pitch processes. If the user-specified process pitch quantity is not a common multiple of all the kanban quantities of the loops using the process, the system applies a threshold of 100X the largest kanban size when calculating a recommended pitch size. Otherwise -- when a process supports many loops with various kanban quantities -- the quantity recommended could be unrealistically large. The calculation time involved could also have a significant impact on system performance.

As soon as the calculated lowest common multiple exceeds the threshold, the system assumes that this is a variable-pitch process. It displays a message recommending that you set the pitch to the largest kanban quantity.

Pitch UM

Enter the unit of measure associated with the value specified in Pitch Quantity.

If this is not the same as the UM specified in Items, a conversion must be defined in Units of Measure.

Pitch Interval (D H:M:S)

Optionally, enter the time frame over which performance of this kanban process is measured based on the value of Pitch Quantity.

When you run Basic Process Calculations with Pitch Interval set to Yes, the system updates this field by multiplying the pitch quantity by the takt time.

CO Time Availability (D H:M:S)

Displays the CO time available. This is a system calculated field.

CO Time Per Interval (D H:M:S)

Displays the CO time per interval. This is a system calculated field.

Cycle Time (D H:M:S)

Displays the cycle time. This is a system calculated field.

Move Time (D H:M:S)

Displays the move time. This is a system calculated field.

Takt Time

Displays the takt time. This is a system calculated field.

Kanban Process Items Details Panel

Main Panel (Kanban Process Items Details)

Item

Specify the number of an item produced by this process. Entries are validated against items defined in Kanban Items.

Note An item at a step can be associated with only one pacemaker process within a site. However, you can associate the same item at a different step with the same pacemaker.

Step

Optionally, specify a step number associated with this item for this kanban loop. If this process has been associated with a loop in Kanban

Masters, the step number defaults from that record. In that case, you cannot update the field in this program.

The default is 0 (zero).

Using step numbers lets you identify an item at a stage of the manufacturing cycle independent of any associated routing information.

For example, item A goes through processes P1, P2, and P3 during the manufacturing cycle. P1 supplies supermarket S1, which in turn supplies P2 through a kanban loop defined as step 10. Another loop is defined between P2 and supermarket S2 (step 20), which then supplies P3 through another loop (step 30). Identifying each loop with a step number gives you a method of seeing the manufacturing cycle as a series of sequential steps, rather than a collection of sometimes unrelated operation numbers.

EPEI

Optionally, enter an EPE interval. To prevent the system from recalculating this value, set EPEI Auto to No. Otherwise, the system overrides the manual value with the calculated process EPEI when you run Kanban Basic Process Calculations.

You can use manual EPEI entry to prevent the system from including rarely produced items in process EPEI calculations. In that case, the EPEI value is for reference only.

The EPE interval is the minimum time a process needs to make all the items it produces based on average demand. This is often expressed in days. For example, when you are using days as the display option, an EPEI of 0.5 means that, allowing for changeover times, the process can produce all of its items twice each day. Use EPEI Display Option in the Main panel to control which unit of time the system uses.

EPEI Auto

Specify whether the system automatically calculates the EPE interval for this process.

- Selected: The system updates the EPEI field when you run Kanban Basic Process Calculations for this process, overwriting any manually entered value.
- Not Selected: You can manually enter a value in the EPEI field. System calculations do not update that field, and requirements for the item are not included in EPEI calculations.

Note EPEI is updated automatically only when the system determines that adequate time exists to perform the required changeovers and production cycles. If not, a warning message displays in EPEI Calculation, and EPEI is left set to 0 (zero) regardless of the EPEI Auto setting.

Minimum EPEI

Optionally, enter the minimum every-part-every interval (EPEI) for this item. This value defaults from Kanban Items.

This field displays in the time units specified in the EPEI Display Option field.

Note This may not be the same as the Kanban Items value, which is entered in decimal days.

The EPEI is the minimum time a process needs to make all the items it produces based on average demand. Specify a minimum item EPEI, for example, when you never want to set up the machines to make a given item more than once every three days. If the calculated process EPEI is less than the specified minimum item EPEI, the system uses the minimum value instead.

Yield

Optionally, enter the normal yield percentage for this item at this process. This value defaults from Items.

Yield is the percentage of the quantity produced that is expected to be in usable condition after this process.

When you run Kanban Process Item Operation Roll-up, the system recalculates this value by multiplying together all the yield values specified in Routings for operations in the Start/End Op range.

Note The system calculation overwrites any manual entry in this field.

The system uses yield in calculating EPEI in Basic Process Calculations. Additionally, yield is factored into average demand calculations when considering future demand based on exploded MRP detail records.

Start Operation

Enter a range of routing operations that will be considered in determining the setup, cycle, and work time for this process.

When you run Kanban Process Item Operation Roll-up for this process, the system uses this range to select operations from the routing specified in Kanban Items. If one is not specified, the item number is used to search for a routing.

If you do not want to use times from routing records, you can optionally enter times for the process in the appropriate fields.

End Operation

Enter the last operation associated with this item at this process.

When you run Kanban Process Item Operation Roll-up for this process, the system uses this range to select operations from the routing

specified in Kanban Items. If one is not specified, the item number is used to search for a routing.

If you do not want to use times from routing records, you can optionally enter total times for the process in the appropriate fields.

Required Operation

Based on the current demand, this is the number of operators needed to meet the production requirements. The system calculates this value as the item work time (in seconds) divided by the process takt time.

Note Yield is the percentage of any order expected to be in usable condition after this process.

Manufacturing Sequence #

Optionally, enter a number to indicate the sequence in which this item is manufactured relative to all items in this process. The default is 0 (zero).

The system does not validate this number. If you leave it set to the default or assign the same sequence number to more than one item, the system sequences items alphanumerically by item number during scheduling.

Setup Time

Optionally, enter the time, in days, hours, minutes, and seconds, required to prepare the process to manufacture this item, independent of order quantity. This value is used in process EPEI calculations.

You can have the system determine this value by running Kanban Process Item Operation Roll-up. The field is set to the total of all the setup times defined in Routings for operations in the Start/End Op range. This overwrites any manually entered values.

Cycle Time

Optionally, enter the total time interval, in days, hours, minutes, and seconds, between individual items being completed by this process. When the process consists of multiple operations that run simultaneously, this is typically the run time for the longest operation. This value is used in process EPEI calculations.

You can enter the number of seconds as a decimal value.

You can have the system determine this value by running Kanban Process Item Operation Roll-up. The field is set to the longest run time among the operations in the Start/End Op range. This overwrites any manually entered values.

Work Time

Optionally, enter the total time, in days, hours, minutes, and seconds, required by all operations included in the process to complete one unit of this item.

You can enter the number of seconds as a decimal value.

You can have the system determine this value by running Kanban Process Item Operation Roll-up. The field is set to the total of the run times for all the operations in the Start/End Op range. This overwrites any manually entered values.

Lead Time

Optionally, enter the total time, in days, hours, minutes, and seconds, required to deliver this item. This field is currently for reference only.

Move Time

Optionally, enter the total time, in days, hours, minutes, and seconds, required to move items between operations in this process. This field is currently for reference only.

Equipment Time

Optionally, enter the total time, in days, hours, minutes, and seconds, required by automated equipment to complete items within this process. For example, you can use this field to contrast machine time with labor, which is represented by work time.

This value is currently for reference only.

Details Panel (Kanban Process Items Details)

UM

Displays the UM for the item.

UM Conversion

Displays the UM conversion factor for the item.

Kanban Quantity

Displays the kanban quantity for the item.

SM Site

Displays the the supermarket site for the item.

Supermarket

Displays the supermarket for the item.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the kanban process.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Select Master Note

Enables master comments to be attached to the kanban process. You can enter the master reference and type in a pop-up frame or leave the fields blank to display a selection list of existing master comments. Select one or more of them for copying into the kanban process.

Note Define master comments with Master Notes. You can use master comments to create reusable text templates that can be pulled into change documents and then edited. They might include legal disclaimers, checklists, standard operating procedures, company policies, or internal surveys.

Notes

Enter the body of the note attached to the kanban process.

Reference

Select a reference for the note.

Language

Select a language for the note.

Tyoe

Select the document type for the note.

Creating Kanban Processes

1. Go to **Kanban Processes**.
2. Click **New**.
3. Complete the fields described in Kanban Processes View on page 4215.
4. Click **Save** to create the new record.

Modifying Kanban Processes

1. Go to **Kanban Processes**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Kanban Processes

1. Go to **Kanban Processes**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.

4. The system prompts a delete confirmation message. Click **Delete**.

Kanban Cards

Use Kanban Cards to perform the following tasks:

- View summary data about an individual kanban card and its current status.
- Change the active status of a card. For example, when you run such programs as the kanban workbenches, sizing calculations may indicate that fewer cards are required. Instead of reprinting all the cards for the loop, you can simply unselect the Active checkbox for the appropriate number of cards, then physically remove the unneeded cards from the production flow.
- Update the active code associated with a card. This lets you set limited-use parameters based on the number of cycles or active dates.
- Delete an inactive card that is no longer needed by clicking Delete.
- Add or update the point-of-use reference for the card. This is an optional field that applies to move cards only. Typically, it is a reference to the location where the kanban material is consumed.
- Modify the authorization date and time. This applies only to replenishment cards with a status of Authorized. To perform similar functions by selecting individual cards from all the cards in a specified loop or to add cards, use th **Kanban Multi-Card Edit** action.

Limited-Use Cards

Sometimes it is useful to introduce one or more cards within a kanban loop for a short period of time; for example, when:

- An item is produced infrequently.
- An item is scheduled to be phased out after one last production run.
- You need to increase production for an item for a specified period of time; for example, to authorize production on a Saturday.
- A new kanban card needs to be introduced one or more times to temporarily build inventory for a new supermarket, or to meet a short, seasonal change in demand.

Controlling the card's active status lets a planner temporarily increase a kanban's supermarket buffer and at the same time define when that buffer can be reduced again.

A limited-use card can be one specifically created and added to the loop, or an existing card that has had limited-use parameters defined. You can define a limited-use card based on:

- Number of fill/consume cycles. After the card has been used for the specified number of cycles, the system automatically deactivates it.

- Active dates. The card is available for use during a specified date range. The system automatically deactivates it after the end date.

When a limited-use card is active, the system automatically increases the value of the Working Buffer field in **Kanban Masters** by the kanban quantity. The working buffer is automatically reduced when the card becomes inactive.

Kanban Cards View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the kanban card you are working on, including the Kanban ID, Item and SM Site. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Kanban ID

Displays the unique, system-assigned identification number for a kanban card.

Item

Displays the item associated with the kanban card.

SM Site

Displays the supermarket site associated with the kanban card.

Source Type

Displays the type of supplying source for kanban loops to select loops for card management activities.

Source types are:

- Inv. The item is supplied from the inventory of a kanban supermarket.
- Process. The item is manufactured by a kanban process.
- Supplier. The item is purchased from an external supplier.

Source

Displays the source that supplies this kanban item.

BOM

Displays the BOM code associated with the kanban card.

Card Type

Displays the integer representing the kanban card type (for example, replenishment or move).

Kanban Quantity

Displays the replenishment quantity.

Accumulator Type

Displays how the system accumulates replenishment cards for this kanban item after you record them using the **Consume/Post** action. You can accumulate cards based on either quantity-based or interval-based criteria.

Print Date

Displays the print timestamp.

Active

Specify whether this card is available for use in this kanban loop.

When Active is unselected, the card cannot be recorded using programs on the Kanban Transactions menu, and the item quantity the card represents is not included in system kanban and supermarket sizing calculations.

When they are created, the default setting for new cards is selected. However, if a loop has too many cards, you can deactivate individual cards, either permanently or temporarily. For example, if the result of running a workbench simulation indicates that current demand can be met more effectively by fewer kanbans, you can deactivate the recommended number of cards. If subsequent demand increases require more kanbans, you can reset the field to selected on as many additional cards as needed.

When Active Code is Cycles or Period, the system activates the card based on the number of times a card has been used or the specified active dates.

This field must be unselected for you to delete the card.

Note You cannot reactivate a card for a loop that has had modifications made to the kanban quantity, source, bill of materials (BOM), or routing since the card was deactivated. You must use the **Create** action in **Kanban Cards** to regenerate the cards for the loop.

Cycles

Enter the number of cycles for which this limited-use card is active. The default is 1.

Each time the card goes through a fill/consume cycle, the system increments the Cycles Used field by 1. When all the specified cycles are used, Active is automatically set to No, and you can no longer record the card using programs on the Kanban Transactions menu.

You can access this field only when Active Code is Cycles.

Active Start

Enter the range of dates over which this limited-use card is active. The default is the current date.

You can access this field only when Active Code is Period.

POU Reference

Optionally, enter or modify a point-of-use reference associated with a kanban move card. For instance, this can be the location code representing where the items are used.

You also can assign a POU reference value to a move card when you record it using the **Consume/Post** action in **Kanban Cards**.

Card Status

Optionally, update the current status of this kanban card.

Based on the program used to record a card, the system assigns a status code to the card, either when it is recorded or as a result of an automated process. Valid values are:

- EmptyAcc (Empty Accumulate). The **Consume/Post** action assigns this status based on the accumulator type for the loop defined in Kanban Master. The card is awaiting evaluation by **Kanban Accumulator** based on quantity, time, or schedule parameters. When the total quantity represented by all the cards with this status reaches the order quantity, the system automatically changes the status of the cards to Authorized. This is the status code assigned to new replenishment cards. The system then analyzes them based on accumulator logic to see if they should be changed to Authorized.
- Auth (Authorized). Production is authorized for the quantity shown on the card. This is the status code assigned to new move cards. Replenishment cards with this status can be included on a dispatch list.
- Ack (Acknowledged). The supplying source has acknowledged receipt of a production authorization. For example, when the item is provided by an external supplier, this can mean that the supplier has received a dispatch list that includes this card and the card has been recorded using the **Acknowledge** action.
- Shipped. The kanban amount has been produced and has left the supplying source. For example, when the item is provided by an external supplier, the item has been produced and is in-transit to the consuming destination. When the source is a manufacturing process that includes a series of first-in, first-out (FIFO) processes, this status indicates that the items have completed the last FIFO process.

- Full. The kanban quantity has been produced and is ready to be consumed or, in a two-card system, moved to the point of use; the card has been recorded using the **Fill/Receive** action.
- In FIFO (In FIFO Process). When the source is a manufacturing process that includes a series of FIFO processes, this status indicates that the items are still under the control of FIFO processes. This status is assigned when the card is recorded using the **Ship** action. When the card is recorded after completing the last FIFO process, the system changes the status to Shipped.

Note In two-card loops, the only valid status codes for move cards are Authorized and Full.

Step

Displays the process step at which this item is associated with the specified routing and BOM codes.

Supermarket ID

Displays the identifier representing the kanban supermarket that is supplied by this loop.

Source Site

Optionally, enter a range of site codes associated with source processes or inventory supermarkets that supply kanban loops to be included in the selection.

PO Number

Displays the number of the purchase order used to obtain this kanban item from the supplier

Line

Displays the line of the purchase order.

Routing Code

A code identifying the routing or process normally used in the manufacture process.

Container Capacity

This field identifies a physical constraint placed on the container or item, which could be any of the following:

- Maximum quantity held by a carton or container
- Standard supplier package size
- Production constraint such as size of an oven tray

- For unwieldy or heavy items, the maximum amount that can be handled

Container capacity is used in the calculations performed by the kanban workbenches.

If you enter 0 (zero), the system displays a warning message.

UM

The unit of measure for the container capacity.

Current FIFO

Optionally, update the current first-in, first-out (FIFO) process where this card is being recorded. The system determines the default process based on the last time the card was recorded and the FIFO process sequence specified in **Kanban Masters**. If the item is just entering a series of FIFO processes, the default is the primary process ID specified in the kanban master record.

This value must be a valid FIFO process ID associated with this loop.

If the specified value is the last FIFO sequence in the loop, the system sets the card status to Shipped; if more FIFO processes are defined, the status is set to In FIFO Process.

Active Code

When Active is selected, optionally update the code associated with the active status of this card:

- Active. The card can be recorded using programs on the Kanban Transactions menu. The system automatically sets this value when Active is selected.
- Inactive. The card has been deactivated. When you unselect Active, the system automatically sets Active Code to Inactive.
- Close. A full card can be recorded for one more cycle. The next time it is consumed, the system automatically deactivates it. If the card is empty, it can be filled once more; then it is deactivated the next time it is consumed.
- Cycles. The card can go through the number of fill/consume cycles specified in Cycles. After completing those cycles, it is automatically deactivated. The system displays the current usage in Cycles Used.
- Period. The card is available for use only between the dates specified in Active Start and Active End. The system automatically deactivates it after the end of the range.

Use the Cycles and Period settings, along with the appropriate associated values, to define a limited-use card.

Cycles Used

The system displays the current usage.

Active End

Enter the range of dates over which this limited-use card is active. The default is the current date.

You can access this field only when Active Code is Period.

Authorized

The system-defined date and time when this card most recently authorized production.

This field can be updated only for replenishment cards with a card status of Authorized

Delivery Panel

Delivery Location

Specify an optional code representing the location where the kanban item is delivered. This is for reference only.

Due Date

Optionally, enter or modify the date when this kanban is due from the supplying source.

The system calculates this date automatically when:

- Recording the card in Kanban Cards > Consume and Post actions results in card authorization.
- The card is recorded in Kanban Cards > Authorize action.
- Accumulator Monitor changes the card status to Auth based on accumulator settings defined in Kanban Masters.
- Card status is changed to Auth in Kanban Cards or the Kanban Multi-Card Edit action.

- The date calculation is based on the source type for the loop.

SUPPLIER LOOP DUE DATE

If the source type is an external supplier, the system assumes a 24-hour clock in calculating due dates.

It determines the due date by adding values specified in Kanban Master to the current date, as follows:

Due Date = today's date + Replenishment Time + Fixed Interval Time (for accumulator types Time or Schedule) + FIFO Time External + FIFO Time Internal

PROCESS AND INVENTORY LOOP DUE DATE

If the source type is a manufacturing process or an inventory supermarket, the system bases the date calculation on the source site calendar.

It first calculates the total time required to fill the kanban as follows:

Total time = Replenishment Time + Loop Interval Time (for accumulator types Time or Schedule) + FIFO Time Internal (using internal calendar) + FIFO Time External (using 24-hour clock)

Based on the site calendar, the system then determines how many days it will take using the total time calculated:

Due Date = today + calculated number of days from above

For example, the source site calendar specifies a single shift that runs from 8 AM until 5 PM Monday through Friday. If the card is authorized on Monday at 4 PM:

If the total time is 2 hours, the due date will be Tuesday.

If the total time is .5 hours, the due date will be Monday.

If the total time is 10 hours, the due date will be Wednesday.

Note The due date logic considers holidays defined in **Holidays** when calculating internal times-including dates available for delivery from external suppliers. For example, if the calculated due date falls on a specified holiday, the due date/time is adjusted to the start of the next business day. However, it does not adjust the standard amount of time allowed the supplier. For example, if the typical delivery time is 3 days and a company holiday falls during that time frame, the system does not assume the supplier takes the holiday and does not extend the time to 4 days to compensate.

Auto Print

Specify whether this card can be selected for automatic printing by the Kanban Multi-Card Edit action.

This value can be updated automatically based on the current card status, as well as the associated Auto Print setting in either Kanban

Control or Kanban Masters. Which setting applies depends on the value of Use Control Prog Tran Settings in Kanban Masters.

Quantity Accepted

Enter the quantity that was considered acceptable for use when the card was last shipped or received. The default value depends on the setting of Modify Inv Data for the loop record in **Kanban Masters**:

Selected: The value entered when the card was last recorded in the **Ship** or **Fill/Receive** actions in **Kanban Cards**.

Unselected: The kanban quantity

When the loop record has a percentage specified in Modify Inv Threshold, the system calculates the difference between Qty Accepted and the kanban quantity as a percentage of the kanban quantity. If the percentage is equal to or larger than the specified threshold, a warning message is displayed.

Note The system calculation is based on an absolute value, so the threshold applies to recorded quantities both greater than and less than the kanban quantity.

Quantity Scrapped

For process loops, enter the quantity that was considered not acceptable for use when the card was last shipped or received. The default value depends on the setting of Modify Inv Data for the loop record in **Kanban Masters**:

Selected: The value entered when the card was last recorded in the **Ship** or **Fill/Receive** actions in **Kanban Cards**.

Unselected: 0 (zero)

Delivery Status Code

Specify an optional status code associated with the shipment or delivery of this kanban. This is for reference only.

Second ID

Optionally, enter a secondary card identifier (up to eight characters) to be associated with cards created or activated by this function.

This user-maintained data is stored as part of the kanban card detail record. It is for reference only and is not validated.

Dispatch Required

Specify whether this card will be selected the next time Kanban Dispatch List Processing is run with selection criteria that match the kanban loop.

You can update this field only when the checkbox is selected. Additionally, the card status must be one of the following:

- Auth or Ack, for any kind of loop

- In FIFO, for process loops that include FIFO processes

If you unselect the checkbox, the system sets the dispatch date and time to the current date and time, and leaves the Dispatch ID field at its current value.

If you select the checkbox, the date, time, and dispatch ID are set to blank. The system updates these fields next time the card is selected in Kanban Dispatch List Processing.

Dispatch ID

Displays the dispatch ID when Dispatch Required is selected.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the kanban card.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the kanban card.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Modifying Kanban Cards

1. Go to **Kanban Cards**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Kanban Cards

1. Go to **Kanban Cards**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.

Actions

The Actions drop-down offers actions you can take for a record or set of records. Individual actions are for individual records and bulk actions are for sets of records that are selected based on browse search criteria and automatically applied required criteria. Bulk actions are only available for a hybrid view in browse-only view mode. For bulk actions, once you select the records and set options, you can simulate or submit the action.

Activate action

Use this action to change the status of an individual kanban card to active. Select the required record on **Kanban Cards** and then the **Activate** action.

You also can do this by changing Active code to Active in **Kanban Cards** or the **Kanban Multi-Card Edit** action.

Activating a card sets the Active code to Active and enables the field. You can record only active cards using programs on Kanban Transactions.

Additionally, the system updates the display-only Working Buffer field in **Kanban Masters** by adding the kanban quantity.

Close Action

Use the Close action to set the status of an individual kanban card to closed. Alternatively, you can update the Active Code to Close using either **Kanban Cards** or **Kanban Multi-Cards**.

Once a card's Active Code is set to Close, it will be automatically deactivated after it completes its next fill/consume cycle.

Using Close Action

1. Go to **Kanban Cards**.
2. Select the card you want to close and in the Actions dropdown select **Close** action.
3. The selected card will get closed, and the Card Status will be updated as Closed.
4. A message prompts confirming that the Kanban ID is closed.

Deactivate action

Use this action to change the status of an individual kanban card to inactive. Select the required record on **Kanban Cards** and then the **Deactivate** action.

You also can do this by changing the Active code to Close in **Kanban Cards** or the **Kanban Multi-Card Edit** action .

Deactivating a card sets the Active code field to Close and changes the disables the field. You cannot record inactive cards using programs on Kanban Transactions.

Additionally, the system updates the display-only Working Buffer field in **Kanban Masters** by subtracting the kanban quantity.

Fill/Recieve Action

Use the **Fill/Receive** action in **Kanban Cards** to record that a kanban has been filled by a manufacturing process or received from a supplier.

When Update Inventory is selected in **Kanban Masters**, the **Fill/Receive** action automatically generates the following inventory transactions:

- When the source is an external supplier, the system creates a PO receipt transaction.
- When the source is a manufacturing process, the system records a production receipt transaction. When Component/Ops Transactions is Yes, the system creates backflush transactions for the components on the bill of material for the item.

If the loop has first-in, first-out (FIFO) processes, the system does a backflush transaction for the components specified in the operation range that is found for the item/step at each FIFO process and at the primary (source) process.

If you use Flow Scheduling and specify a flow production line in Kanban Processes, the receipt is applied to a flow schedule on that production line.

- When the source is kanban supermarket inventory, the system creates an inventory transfer from the supplying source to the consuming destination.

The information that displays in this action vary based on settings in Kanban Control:

- When the Controlled Kanban Entry field is Warning or Error, the Controlled Kanban Entry subpanel appears. When you begin recording cards, the system validates them against the values you enter and displays warning or error messages when a card does not match one of the settings. When Controlled Kanbam Entry is None, the Controlled Kanban Entry subpanel does not display.
- When Effective Date Entry is selected, you can change the effective date of the kanban transactions. Otherwise, the system uses the current date.
- After you record a card, the system displays card summary data for the amount of time specified in Transaction Display Pause in Seconds. When that field is 0 (zero), the summary does not display.

When the source of the kanban loop is an external supplier or a manufacturing process with subcontract operation, the Fill/Receive action prompts you for purchase order or reference information under the following circumstances:

- The Card Control Detail panel in Kanban Masters has Impact Inventory selected. In this case, recording a card automatically generates a PO receipt transaction.
- The Source Master Data panel in Kanban Masters does not include both a purchase order and line number. Otherwise, the system creates the receipt for the specified PO and line, and does not prompt you for the information. When Kanban Masters includes a PO number without a line, the prompt frame includes the number as a default, but you must add a valid line number before the transaction can be completed. The system date must fall within the scheduled order line effective date range; otherwise, you cannot continue. Scheduled orders have both header and line start and end effective dates. When processing the order, the system uses the line start date and the later of the header or line end date as the active order line date range.
- Kanban Masters includes a PO number for a subcontract purchase order that is either closed or has multiple subcontract purchase orders associated with a single record. When Kanban Master includes a subcontract PO number for either condition, you are prompted to enter the correct purchase order and line number.
- The PO Receipt Data Entry or Lot Entry field is Yes in the Kanban Transaction Control panel of Kanban Masters. The Fill/Receive action displays additional fields for recording optional reference information.

If the Kanban Cycle Enforcement field is set to Warning or Error in Kanban Masters, the system verifies that the card has not been recorded during the specified time interval and displays a warning or error message as needed. Next, the system validates the card against controlled entry values, if any, and displays appropriate messages. After the card summary displays for the specified time, the Kanban ID field redisplays.

Subcontract Purchase Orders

Some companies use more than one subcontractor for the same routing and operation. More than one subcontractor can be associated for a specific routing and operation by:

- Connecting subcontract discrete purchase orders to a specific routing and operation using Subcontract Routing/Operations
- Connecting subcontract scheduled orders to a specific routing and operation and allocating order percentages among subcontractors for the same item using Subcontract Order MRP %

When the Fill/Receive action processes a subcontract purchase order, it retreives the purchase order record created by Subcontract Routing/Operations or the scheduled order record created by Subcontract Order MRP % . Since multiple subcontract purchase orders or scheduled orders can exist for a specific routing and operation, you may be prompted to enter the correct order.

Use the look-up browse to select available subcontract discrete purchase orders or scheduled orders. The look-up browse displays orders by supplier name and number, PO number, and PO line.

Kanban Status Codes

Based on the program used to record a card, the system assigns a status code to the card, either when it is recorded or as a result of an automated process. Valid values are:

- EmptyAcc (Empty Accumulate). The Consume/Post action in Kanban Cards assigns this status based on the accumulator type for the loop defined in Kanban Masters. The card is awaiting evaluation by Kanban Accumulator based on quantity, time, or schedule parameters. When the total quantity represented by all the cards with this status reaches the order quantity, the system automatically changes the status of the cards to Authorized. This is the status code assigned to new replenishment cards. The system then analyzes them based on accumulator logic to see if they should be changed to Authorized.
- Auth (Authorized). Production is authorized for the quantity shown on the card. This is the status code assigned to new move cards. Replenishment cards with this status can be included on a dispatch list.
- Ack (Acknowledged). The supplying source has acknowledged receipt of a production authorization. For example, when the item is provided by an external supplier, this can mean that the supplier has received a dispatch list that includes this card and the card has been recorded using the Acknowledge action in Kanban Masters.
- Shipped. The kanban amount has been produced and has left the supplying source. For example, when the item is provided by an external supplier, the item has been produced and is in-transit to the consuming destination. When the source is a manufacturing process that includes a series of first-in, first-out (FIFO) processes, this status indicates that the items have completed the last FIFO process.
- Full. The kanban quantity has been produced and is ready to be consumed or, in a two-card system, moved to the point of use; the card has been recorded using the Fill/Receive action in Kanban Cards.
- In FIFO (In FIFO Process). When the source is a manufacturing process that includes a series of FIFO processes, this status indicates that the items are still under the control of FIFO processes. This status is assigned when the card is recorded using the Ship action in Kanban Cards. When the card is recorded after completing the last FIFO process, the system changes the status to Shipped.

  Note In two-card loops, the only valid status codes for move cards are Authorized and Full.

Sequence Enforcement

Depending on settings in Kanban Control and Kanban Masters, the system may display a warning or error message when you attempt to record a transaction out of sequence. For example, standard workflow calls for replenishment cards to be recorded in the Fill/Receive action, then the Consume/Post action. Based on setup data, attempting to record cards in the Fill/Receive action followed by the Acknowledge action might result in a system-generated message.

The sequence of transactions can be controlled on three levels:

- Sequence enforcement is controlled at the system level using the related replenishment and move field in Kanban Control. Settings on other levels apply only when this field is enabled.
- When sequence enforcement is enabled at the system level, select the Use Control Prog Tran Settings checkboxin Kanban Masters to have the loop get its enforcement settings directly from Kanban Control.
- Unselect the Use Control Prog Trans Settings to have the loop use settings specified in Kanban Masters.

At both the Kanban Control and loop levels, individual settings are available for each type of transaction event for replenishment and move cards. Options for most transaction events are:

- None. The system does not check the sequence of transaction events when a card is recorded.
- Warning. If transaction events are recorded out of sequence, the system displays a warning message. You can still record the card.
- Error. If transaction events are recorded out of sequence, you cannot complete the transaction.

Additional options available for Ship events let you specify whether you want to display warnings or errors only for the first FIFO process in the loop or for all FIFO processes.

Other Messages

In addition to sequence and kanban cycle enforcement messages, the system may display a message based on other Kanban Masters settings:

- When a card is recorded in any kanban transaction program, the system determines whether certain key values on the card such as kanban quantity, BOM, and routing are still the same as loop master values. When this is not true, the system uses the replenishment or move card Regeneration Enforcement setting in Kanban Masters. Based on that value, the system may allow the transaction without a message, display a warning, or prevent you from recording the card.
- When a card is recorded in the Consume/Post action, the system determines whether the actual number of active cards (excluding

limited-use cards) is still equal to the system-recommended optimal number for the loop. When Card Reconciliation is selected in Kanban Control and Decrease at Consume is selected in Kanban Masters, the system inactivates each unneeded card when you record it and prompts you to physically remove it from the loop.

Main Panel

Kanban ID

Defaults from the record selected in the Kanban Cards browse. Kanban ID represents a unique card to be processed in a kanban transaction or to appear on reports.

Effective Date

Enter the effective date for this kanban transaction session. The default is the system date. You can edit this field if Effective Date Entry is selected in Kanban Control.

The effective date is used for all transactions during the current session.

The effective date determines when this transaction affects general ledger (GL) balances. The effective date must be in an open GL period.

This date is also used for backflushing items in a bill of material.

Controlled Kanban Entry Subpanel

This subpanel only displays if the Controlled Kanban Entry field in Kanban Control is set to Warning or Error.

Item

Optionally, enter an item number.

Supermarket Site

Optionally, enter a supermarket site.

Supermarket

Optionally, enter a supermarket.

Process Supplier

Optionally, enter a process supplier.

Purchase Order Number

Optionally, enter a purchase order number.

Source Site

Optionally, enter a source site.

Source Supermarket

Optionally, enter a source supermarket.

Card Type

Optionally, enter a card type.

Kanban Transactions Panel

The Kanban Transactions panel includes the Kanban Transactions grid.

Time

Displays the time for the transaction.

Kanban ID

Displays the kanban ID for the transaction.

Item Number

Displays the item number for the transaction.

Supermarket

Displays the supermarket ID for the transaction.

Reference

Enter an optional reference number associated with the received items.

Event

Displays the event for the transaction.

Using the Fill/Recieve Action

Use the **Fill/Recieve** action in **Kanban Cards** to record that a kanban has been filled by a manufacturing process or received from a supplier.

1. In **Kanban Cards**, select the required record.
2. Go to Actions>Individual>Fill/Recieve. The **Fill/Recieve** action view appears.
3. Enter the available settings in the Main panel.
4. The Kanban Transactions grid displays the corresponding transactions.
5. Click **Submit**, to complete the action.

Acknowledge Action

Use the **Acknowledge** action in **Kanban Cards** to record that an authorized kanban has been received by the supplying source. For example, when you are informed that the supplier has received a dispatch list authorizing replenishment, you can record the transaction using this program.

The information that displays in this action vary based on settings in Kanban Control:

- When the Controlled Kanban Entry field is Warning or Error, the Controlled Kanban Entry subpanel appears. When you begin recording cards, the system validates them against the values you

enter and displays warning or error messages when a card does not match one of the settings. When Controlled Kanban Entry is None, the Controlled Kanban Entry subpanel does not display.

- When Effective Date Entry is selected, you can change the effective date of the kanban transactions. Otherwise, the system uses the current date.
- After you record a card, the system displays card summary data for the amount of time specified in Transaction Display Pause in Seconds. When that field is 0 (zero), the summary does not display.

If the Kanban Cycle Enforcement field is set to Warning or Error in **Kanban Masters**, the system verifies that the card has not been recorded during the specified time interval and displays a warning or error message as needed. Next, the system validates the card against controlled entry values, if any, and displays appropriate messages. After the card summary displays for the specified time, the Kanban ID field redisplays.

Subcontract Purchase Orders

Some companies use more than one subcontractor for the same routing and operation. More than one subcontractor can be associated for a specific routing and operation by:

- Connecting subcontract discrete purchase orders to a specific routing and operation using Subcontract Routing/Operations
- Connecting subcontract scheduled orders to a specific routing and operation and allocating order percentages among subcontractors for the same item using Subcontract Order MRP %

When the Fill/Receive action processes a subcontract purchase order, it retreives the purchase order record created by Subcontract Routing/Operations or the scheduled order record created by Subcontract Order MRP % . Since multiple subcontract purchase orders or scheduled orders can exist for a specific routing and operation, you may be prompted to enter the correct order.

Use the look-up browse to select available subcontract discrete purchase orders or scheduled orders. The look-up browse displays orders by supplier name and number, PO number, and PO line.

Kanban Status Codes

Based on the program used to record a card, the system assigns a status code to the card, either when it is recorded or as a result of an automated process. Valid values are:

- EmptyAcc (Empty Accumulate). The Consume/Post action in Kanban Cards assigns this status based on the accumulator type for the loop defined in Kanban Masters. The card is awaiting evaluation by Kanban Accumulator based on quantity, time, or schedule parameters. When the total quantity represented by all the cards with this status reaches the order quantity, the system automatically

changes the status of the cards to Authorized. This is the status code assigned to new replenishment cards. The system then analyzes them based on accumulator logic to see if they should be changed to Authorized.

- Auth (Authorized). Production is authorized for the quantity shown on the card. This is the status code assigned to new move cards. Replenishment cards with this status can be included on a dispatch list.
- Ack (Acknowledged). The supplying source has acknowledged receipt of a production authorization. For example, when the item is provided by an external supplier, this can mean that the supplier has received a dispatch list that includes this card and the card has been recorded using the Acknowledge action in Kanban Masters.
- Shipped. The kanban amount has been produced and has left the supplying source. For example, when the item is provided by an external supplier, the item has been produced and is in-transit to the consuming destination. When the source is a manufacturing process that includes a series of first-in, first-out (FIFO) processes, this status indicates that the items have completed the last FIFO process.
- Full. The kanban quantity has been produced and is ready to be consumed or, in a two-card system, moved to the point of use; the card has been recorded using the Fill/Receive action in Kanban Cards.
- In FIFO (In FIFO Process). When the source is a manufacturing process that includes a series of FIFO processes, this status indicates that the items are still under the control of FIFO processes. This status is assigned when the card is recorded using the Ship action in Kanban Cards. When the card is recorded after completing the last FIFO process, the system changes the status to Shipped.

  Note In two-card loops, the only valid status codes for move cards are Authorized and Full.

Sequence Enforcement

Depending on settings in Kanban Control and Kanban Masters, the system may display a warning or error message when you attempt to record a transaction out of sequence. For example, standard workflow calls for replenishment cards to be recorded in the Fill/Receive action, then the Consume/Post action. Based on setup data, attempting to record cards in the Fill/Receive action followed by the Acknowledge action might result in a system-generated message.

The sequence of transactions can be controlled on three levels:

- Sequence enforcement is controlled at the system level using the related replenishment and move field in Kanban Control. Settings on other levels apply only when this field is enabled.

- When sequence enforcement is enabled at the system level, select the Use Control Prog Tran Settings checkboxin Kanban Masters to have the loop get its enforcement settings directly from Kanban Control.
- Unselect the Use Control Prog Trans Settings to have the loop use settings specified in Kanban Masters.

At both the Kanban Control and loop levels, individual settings are available for each type of transaction event for replenishment and move cards. Options for most transaction events are:

- None. The system does not check the sequence of transaction events when a card is recorded.
- Warning. If transaction events are recorded out of sequence, the system displays a warning message. You can still record the card.
- Error. If transaction events are recorded out of sequence, you cannot complete the transaction.

Additional options available for Ship events let you specify whether you want to display warnings or errors only for the first FIFO process in the loop or for all FIFO processes.

Other Messages

In addition to sequence and kanban cycle enforcement messages, the system may display a message based on other Kanban Masters settings:

- When a card is recorded in any kanban transaction program, the system determines whether certain key values on the card such as kanban quantity, BOM, and routing are still the same as loop master values. When this is not true, the system uses the replenishment or move card Regeneration Enforcement setting in Kanban Masters. Based on that value, the system may allow the transaction without a message, display a warning, or prevent you from recording the card.
- When a card is recorded in the Consume/Post action, the system determines whether the actual number of active cards (excluding limited-use cards) is still equal to the system-recommended optimal number for the loop. When Card Reconciliation is selected in Kanban Control and Decrease at Consume is selected in Kanban Masters, the system inactivates each unneeded card when you record it and prompts you to physically remove it from the loop.

Main Panel

Kanban ID

Defaults from the record selected in the Kanban Cards browse. Kanban ID represents a unique card to be processed in a kanban transaction or to appear on reports.

Effective Date

Enter the effective date for this kanban transaction session. The default is the system date. You can edit this field if Effective Date Entry is selected in Kanban Control.

The effective date is used for all transactions during the current session.

The effective date determines when this transaction affects general ledger (GL) balances. The effective date must be in an open GL period.

This date is also used for backflushing items in a bill of material.

Controlled Kanban Entry Subpanel

This subpanel only displays if the Controlled Kanban Entry field in Kanban Control is set to Warning or Error.

Item

Optionally, enter an item number.

Supermarket Site

Optionally, enter a supermarket site.

Supermarket

Optionally, enter a supermarket.

Process Supplier

Optionally, enter a process supplier.

Purchase Order Number

Optionally, enter a purchase order number.

Source Site

Optionally, enter a source site.

Source Supermarket

Optionally, enter a source supermarket.

Card Type

Optionally, enter a card type.

Kanban Transactions Panel

The Kanban Transactions panel includes the Kanban Transactions grid.

Time

Displays the time for the transaction.

Kanban ID

Displays the kanban ID for the transaction.

Item Number

Displays the item number for the transaction.

Supermarket

Displays the supermarket ID for the transaction.

Reference

Enter an optional reference number associated with the received items.

Event

Displays the event for the transaction.

Using the Acknowledge Action

Use the **Acknowledge** action in **Kanban Cards** to record that an authorized kanban has been received by the supplying source.

1. In **Kanban Cards**, select the required record.
2. Go to Actions>Individual>Acknowledge. The **Acknowledge** action view appears.
3. Enter the available settings in the Main panel.
4. The Kanban Transactions grid displays the corresponding transactions.
5. Click **Submit**, to complete the action.

Status Reversal Action

The Status Reversal action in Kanban Cards allows you to reverse specific Kanban transactions when a recorded event (such as Activate, Acknowledge, Ship, Fill, among others) was logged in error. Reversing these transactions ensures data integrity and helps maintain an accurate Kanban lifecycle.

When you submit a reversal:

- The selected Kanban card’s latest transaction is undone.
- The card status reverts to the appropriate earlier state.
- A reversal transaction is logged in the Kanban history.

Main Panel

Kanban ID

Defaults from the record selected in the Kanban Cards browse. Kanban ID represents a unique card to be processed in a kanban transaction or to appear on reports.

Effective Date

Enter the effective date for this kanban transaction session. The default is the system date. You can edit this field if Effective Date Entry is selected in Kanban Control.

The effective date is used for all transactions during the current session.

The effective date determines when this transaction affects general ledger (GL) balances. The effective date must be in an open GL period.

This date is also used for backflushing items in a bill of material.

Controlled Kanban Entry Subpanel

This subpanel only displays if the Controlled Kanban Entry field in Kanban Control is set to Warning or Error.

Item

Optionally, enter an item number.

Supermarket Site

Optionally, enter a supermarket site.

Supermarket

Optionally, enter a supermarket.

Process Supplier

Optionally, enter a process supplier.

Purchase Order Number

Optionally, enter a purchase order number.

Source Site

Optionally, enter a source site.

Source Supermarket

Optionally, enter a source supermarket.

Card Type

Optionally, enter a card type.

Kanban Transactions Panel

The Kanban Transactions panel includes the Kanban Transactions grid.

Time

Displays the time for the transaction.

Kanban ID

Displays the kanban ID for the transaction.

Item Number

Displays the item number for the transaction.

Supermarket

Displays the supermarket ID for the transaction.

Reference

Enter an optional reference number associated with the received items.

Event

Displays the event for the transaction.

Using the Status Reversal Action

Use the **Status Reversal** action in **Kanban Cards** to reverse specific Kanban transactions when a recorded event was logged in error.

1. In **Kanban Cards**, select the required record.
2. Go to Actions>Individual>Status Reversal. The **Status Reversal** action view appears.
3. Enter the available settings in the Main panel.
4. The Kanban Transactions grid displays the corresponding transactions.
5. Click **Submit**, to complete the action.

Kanban Items

You must define items in this program before you can set up loops using Kanban Masters or define kanban process items using Kanban Processes.

You also can associate process steps, routings, and bills of material (BOMs) with kanban items. Because items may use different routings or BOMs depending on where they are in the manufacturing process, you can create multiple item records with different steps to differentiate them.

If you do not specify a routing or BOM code, the system uses standard logic for activities that require one of those codes. For example, if no routing code is specified for a kanban item, Process Item Operation Rollup searches for a routing record specified for the item-site, then the item. If those item-site or item records do not include a routing, the system looks for a routing code that is the same as the item number.

Kanban Items View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the current kanban item, including the Item, Routing, and Container Type fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Item

Enter the number of an item supplied using a kanban loop. This must be defined in Items.This field is mandatory.

Step

Enter the process step at which this item is associated with the specified routing and BOM. The default is zero. This field is mandatory.

Step numbers provide a way of associating a kanban item with more than one routing or BOM. For example, an item at one step of the manufacturing process may go through different routing operations than at another step.

Routing

Specify the routing used to produce this kanban item at this process step. This defaults from Items, if a routing is specified.

The system displays a warning if the value is not defined in Routings.

When you run Kanban Process Item Operation Rollup, the system uses this routing to find specified operations whose setup and run times will be included in the overall process times.

BOM

Specify the bill of materials used to produce this kanban item at this process step. This defaults from Items, if a BOM is specified.

The system displays a warning if the value is not defined in Product Structure Codes.

The system uses this BOM to identify components consumed when you record kanban transactions for processes producing this item using theFill/Receive action in Kanban Cards and Component/Op Transactions is Yes in Kanban Masters.

Container Type

Specify the type of container used to store and move this kanban item. This value must be defined in Container Types. It defaults to new loop records for this item in Kanban Masters.

Minimum Item EPEI

Optionally enter the default minimum every-part-every interval (EPEI) for this item when it is added to a process in Kanban Processes. The default is zero.

The Kanban Items field uses decimal days. However, if you enter a value here, the system converts it to the units specified in the EPEI Display Option field in Kanban Processes.

The EPE interval is the minimum time a process needs to make all the items it produces based on average demand. Specify a minimum item EPEI, for example, when you never want to set up the machines to make a given item more than once every three days. If the calculated process EPEI is less than the specified minimum item EPEI, the system uses the minimum value instead.

Cost Allocation

Specify the percentage of the total cost of this item represented by its value at this process step. The default is 100%.

The system uses this percentage in the kanban workbenches average inventory and safety stock value calculations. The kanban item cost at a given process step is calculated by multiplying the cost of the item from the cost set specified in Kanban Control by this percentage.

Defining the cost of an item as less than 100% is useful when the item at a step is still in progress, and the total components and labor required for the completed item have been only partially used.

Average Inv Calc Method

Specify the default average inventory calculation method for new kanban loops. This value defaults to Kanban Masters. You can change it for individual loops. This field is mandatory.

The system calculates the value of the Average Inventory Units field in the kanban workbenches based on the method specified for the loop, as well as various other values from the workbenches.

Valid values are:

- Standard (the default). Average inventory is calculated as follows:
  - If Order Quantity is greater than 0, then Average Inventory = (Order Quantity * 0.5) + (Average Daily Demand * FIFO Time) + Safety Stock + Container Size Safety Stock
  - If Order Quantity is 0, then Average Inventory = ((Fixed Interval Time * Average Daily Demand) * 0.5) + (Average Daily Demand * FIFO Time) + Safety Stock + Container Size Safety Stock
  - If Order Quantity and Fixed Interval are both 0, then Average Inventory = (Kanban Quantity * 0.5) + (Average Daily Demand * FIFO Time) + Safety Stock + Container Size Safety Stock
- Mfg1. Average inventory is calculated as follows:
  - 1/4 * (3 * Final Order Quantity + Average Daily Demand * Run Time in Days) + Total Safety Stock Units + ((FIFO Time in Days * Average Daily Demand) rounded up to the kanban quantity) + Container Size Safety Stock
  - In this calculation, Run Time in Days = (Loop Final Order Quantity * Cycle Time) / Process Time in a Day + (Item Setup Time / Process Time in a Day)

Note Method Mfg1 is designed for loops that have Source Type set to Process.

Run Out Panel

Run-Out Option

Select the checkbox if the source that supplies this item at this step typically runs the quantity needed to use the entire supply of a given material regardless of the kanban quantity. This value defaults to Kanban Masters. You can change it for individual loops.

Especially in situations with extensive setup times to change over to a key material, it may not make sense to set up a work center for just the kanban quantity. Instead, you may want to make enough items to use an entire bulk quantity of that material. For example, if changing over a process to set up a coil of steel takes significant time, it may be more efficient to use the entire coil each time you run the item. The

total amount of material available, the quantity required to produce each item, and the amount of time required to change over to a new supply can be useful information for analyzing kanban setup and sizing alternatives.

The value specified in Kanban Masters displays in the kanban workbenches and is included in files created by Kanban Workbench Export, along with the related run-out parameters defined in Kanban Item Master.This field is for reference only.

Run-Out Setup (D H:M:S)

Enter the time in days, hours, minutes, and seconds, required to change over this run-out material when it needs to be replenished. This field is for reference only.

Run-Out Material

Enter the run-out material associated with this item. For example, this could be a coil of wire. This field is for reference only.

Run-Out Quantity

Enter the quantity of this run-out material. For example, this can be the number of feet of wire in a coil.This field is for reference only.

UM

Enter the unit of measure associated with the run-out quantity of this item. This field is validated against values entered in Generalized Codes.

If you also enter a value in the unit of measure for Run-Out Quantity Per, the system looks for a conversion factor defined in UM Conversions. If one is available, it defaults to the Run-Out UM Conversion Factor field.

It displays in the kanban workbenches and is included in files created by Kanban Workbench Export. This field is for reference only.

Run-Out Quantity Per

Enter the quantity of this run-out material used to produce a single kanban item. This field is for reference only.

UM

Enter the unit of measure associated with the run-out quantity of this item. This field is validated against values entered in Generalized Codes.

If you also enter a value in the unit of measure for Run-Out Quantity Per, the system looks for a conversion factor defined in

UM Conversions. If one is available, it defaults to the Run-Out UM Conversion Factor field.

It displays in the kanban workbenches and is included in files created by Kanban Workbench Export. This field is for reference only.

Run-Out UM Conversion Factor

Enter the conversion factor between the Run-Out Quantity and the Run-Out Quantity Per. For example, if the run-out material is a coil of hose 500 feet long and each kanban item requires a 3-inch length, you would specify a foot-to-inch conversion factor of .08333333.

When you first define a record in this program, this field is blank. If you specify values in the two UM fields that have a conversion factor defined in UM Conversions , the system automatically adds that value to the field. If you change it, the system displays a warning message.

When you save a record with the field blank, it defaults to 1. To add new units of measure that have conversion factors defined, enter them in the UM fields, set Run-Out UM Conversion Factor to zero, and click Save. The system displays the conversion factor.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the kanban item.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the kanban item.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Kanban Items

1. Go to **Kanban Items**.
2. Click **New**.
3. Complete the fields described in Kanban Items View on page 4251.
4. Click **Save** to create the new record.

Modifying Kanban Items

1. Go to **Kanban Items**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Kanban Items

1. Go to **Kanban Items**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.

Authorized Card

Use **Authorized Card** to display a list of kanban cards that currently have a status code of Auth. For two-card loops, the list includes move cards only when you specify just a site and supermarket ID. When you specify a source ID, only replenishment cards display.

When the value of Source is a first-in, first-out (FIFO) process, which is identified in **Kanban Processes** with Process Function set to FIFO, the list also includes replenishment cards with a status code of In FIFO.

Source Site is a required field. You also must enter a valid value in either Source or Supermarket. You can leave Source Type blank. However, if you enter a value, you also must enter a source ID. The system then verifies that the type matches the source ID.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Source Site

Enter the site that supplies the kanban loop to be included in this report. This must be defined in Sites. It is a required field.

Source Type

Enter the type of source that supplies the kanban loop to be included in this report. Valid values are:

- Inv. The source is an inventory supermarket defined in Kanban Supermarket.
- Process. The source is a manufacturing process defined in Kanban Processes.
- Supplier. The source is an external supplier defined in Suppliers.

You can leave this field blank. If you enter a value, the system validates that the value in Source matches the specified type.

Source

Enter the source of the kanban loop to be included in this report. Depending on the source type, this can be a supermarket ID, kanban process ID, or supplier address code. When this field is blank, you must enter a valid value in Supermarket.

Supermarket

Enter the supermarket supplied by the kanban loop to be included in this report. When this field is blank, you must enter a valid value in Source.

Click **Run** to generate the report.

Kanban Card Audit

Use Kanban Card Audit report to generate a comparison of the system recommended number of kanban cards in a loop with the actual current number of active cards. The report also shows the number of inactive cards that exist for the loop, if any.

Note The report includes only loops for which there is a difference between the recommended and actual number of cards. When those numbers are identical, the loops are not displayed.

Settings Panel

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Panel

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Optionally, enter a range of kanban item numbers to be included in the report.

Kanban items are identified using Kanban Items.

Supermarket Site

Optionally, enter a range of sites that use kanban loops as sources of supply to be included in the report.

Supermarket

Optionally, specify a range of kanban supermarkets to be included in the report.

Source

Optionally, enter a range of source identifiers for kanban loops to be included in the report. Sources can be kanban manufacturing processes, inventory supermarkets, or supplier addresses.

Click **Run** to generate the report.

Kanban Quantity Audit

Use Kanban Quantity Audit to identify kanban loops that have cards on which the kanban quantity is not equal to the quantity accepted.

Use the Tolerance Percent field to limit the report to cards that have differences larger than the specified magnitude.

The output first shows basic data about the loop, then lists the cards by card ID. Based on the Display Reason Codes setting, it also shows the reason a quantity was recorded as scrap, if a reason was specified with the transaction was recorded.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Enter the code identifying an inventory item defined in Items.

Items uniquely identify items or products. These may be raw materials, purchased or manufactured intermediates, finished items, or packaging materials. Item codes are also used to identify planning items, configured products, repair parts, service items, and kits.

Most reports can be selected by item number.

Step

Optionally, enter a range of process steps to be included in the report.

Steps are associated with items using Kanban Items.

Supermarket Site

Optionally, enter a range of kanban supermarket site codes for selecting kanban transaction history records.

Supermarket

Optionally, specify a range of kanban supermarkets to be included in the report.

Source Site

Optionally, enter a range of site codes associated with source processes or inventory supermarkets that supply kanban loops to be included in the selection.

Process

Optionally, enter a range of process IDs to be selected by this function.

Source Supermarket

Optionally, enter a range of supplying supermarkets for selecting kanban transaction history records.

Supplier

Optionally, enter a range of supplier address codes for selecting kanban transaction history records.

Transaction Date

Enter the range of transaction dates to include in this function or display on this report.

Transaction Time

Enter the range of transaction times to include in this function or display on this report.

Production Line

Enter a code identifying a production line.

Production lines identify a series of work centers and machines, normally dedicated to the manufacture of a specific number of products or families. Different production lines can be defined at each site.

Production line selects specific information to appear on reports.

User Reference

Optionally, enter a user reference associated with kanban loops to be included in the report.

Associate user references with kanban loops in Kanban Masters.

Kanban ID

Enter a number identifying a kanban card.

Kanban ID selects a unique card to be processed in a kanban transaction or to appear on reports.

Transaction Number

Enter a number identifying a kanban transaction history record.

Use the transaction number to select and sort information on reports. Transactions are stored in descending sequence by date and transaction number.

The system automatically assigns transaction numbers, beginning with 1 and up to 99999999. Once this maximum is reached, the number is reset to 1 and the sequence starts over. Only unused numbers are reassigned.

User ID

Enter the range of user IDs to include in this function or display on this report.

Purchase Order

Optionally, enter a range of purchase order numbers for selecting kanban transaction history records. The system includes transactions that were recorded against purchase orders in the specified range using the Fill/Receive action in **Kanban Cards**.

You can further limit the selection by specifying a range of purchase order line numbers.

Line

Optionally, enter a range of purchase order line numbers for selecting kanban transaction history records.

Tolerance Percent

Specify the minimum percentage of difference required between the kanban quantity and the quantity accepted for the loop to be included in the report.

Note The system calculation is based on an absolute value, so the tolerance percent applies to recorded quantities both greater than and less than the kanban quantity.

When you leave the field set to the default of 0.00, the report includes all loops where the quantity accepted does not equal the kanban quantity.

Source Type

Optionally, enter the source type of loops to be included in the report. Valid values are:

- Supplier
- Process
- Inventory

Leave the field blank to include all loops regardless of source type.

Display Reason Codes

Enter Yes to have the report include reason codes associated with scrapped quantities.

You can specify one or more reason codes when you record a kanban transaction and you enter a scrap value to account for the difference between the kanban quantity and the quantity accepted.

Click **Run** to generate the report.

Kanban Multi-Card Print

Use Kanban Multi-Card Print to print cards after new loops have been defined, when card data for existing loops is out of date, or when cards have been lost or damaged.

Enter selection criteria based on ranges of site, supermarket, source, kanban item, or card ID number.

You also can limit the selection based on the source type, type of card (replenishment or move), as well as whether the cards are active and whether they have already been printed.

To print an individual card based on its card ID, you also can use Kanban Card Print.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Optionally enter a range of item numbers for selecting kanban cards to print.

Supermarket Site

Optionally enter a range of sites for selecting kanban cards to print.

Supermarket

Optionally, specify a range of kanban supermarkets to be included in the report.

Source Site

Optionally, enter a range of site codes associated with source processes or inventory supermarkets that supply kanban loops to be included in the selection.

Source

Optionally enter a range of source IDs for selecting kanban cards to print. Sources can include kanban process IDs, supplier addresses, or supermarket IDs.

Kanban ID

Optionally enter a range of kanban cards to print.

The system assigns a unique identifier to each kanban card. Use the inquiries and views on the Kanban Transactions menu to determine the kanban ID numbers associated with kanban loops.

Due Date

Enter the due date for this function to consider.

Source Type

Optionally enter a source type for selecting kanban cards to print.

- Blank (default): The system prints all cards that meet the selection criteria.
- Inv: Selection is limited to loops supplied from the inventory of a kanban supermarket.
- Process: Selection is limited to loops supplied by a kanban process.
- Supplier: Selection is limited to loops supplied from an external supplier.

Card Type

Specify which types of kanban cards are printed.

- Blank (default): The system prints all cards that meet the selection criteria.
- Repl: Only replenishment cards print. In a one-card loop, this means that all cards print.
- Move: Only move cards print.
- Important: If you set this field to Move, the system does not print any cards for one-card loops.

Card Status

Specify the card status code associated with kanban cards to be selected for printing.

- Blank (default): The system prints all cards that meet the selection criteria.
- EmptyAcc: Only cards with an Empty Accumulate status print. These are cards that will automatically be authorized when the loop meets accumulator parameters defined in Kanban Master.
- Auth: Only cards with a status of Authorized print. These are cards that are authorized for replenishment.

- Ack: Only cards with an Acknowledged status print. For example, these can be cards that have been authorized and acknowledged as received by an external supplier.
- Shipped: Only cards with a status of Shipped print. For example, these can be cards that have been replenished by an external supplier, who has sent a notification that the order has been sent to the destination supermarket.
- Full: Only cards with a status of Full print. These are cards that represent a kanban quantity produced and available for use.
- In FIFO: This is a special status code assigned only to cards recorded using Kanban Ship when they are still under the control of an operation in a first-in, first-out (FIFO) process.

The system assigns a status to cards based on the last time they were recorded using a program on the Kanban Transactions menu.

Note In two-card loops, the only valid status for move cards are Authorized and Full.

Active Only

Enter Yes to limit the selection to kanban cards that have not been either:

- Manually deactivated using a program on the Kanban Cards menu.
- Automatically deactivated by the system as a result of completing cycle or date range parameters associated with limited-use cards.

Otherwise, the system prints all active and inactive cards that meet the selection criteria.

Print Auto Print Cards Only

Enter Yes to limit the selection to cards that have the Auto Print field set to Yes. When Print Auto Print Cards Only is No (the default), cards that meet the selection criteria are printed regardless of the Auto Print setting.

The system uses settings in Kanban Master to determine the value of Auto Print based on whether cards in the loop are printed after they are recorded using specified kanban transactions. You can update Auto Print manually in Kanban Cards or Kanban Multi-Card .

After cards are printed, the system automatically sets Auto Print to No.

Print Comments

Specify whether printed cards include comments entered for the loop in Kanban Master or for individual cards in Kanban Cards or Kanban Multi-Card.

Unprinted Cards Only

Enter Yes to limit the selection to kanban cards that have not already been printed. Otherwise, the system prints all cards that meet the selection criteria.

Click **Run** to generate the report.

Kanban Transaction Delete & Archive

Use Kanban Transaction Delete & Archive to delete and archive kanban transaction records when online history is no longer needed.

The system does not automatically delete historical information at period or year end. You can delete this information as frequently or infrequently as you prefer. How often you should run this function depends on how long you need to retain historical information in your database. Most companies keep historical data for at least one year or longer, depending on availability of disk space.

You should run this function twice. First, run it with Delete set to No and review the report. Then, run it with Delete set to Yes.

When you set Delete to Yes, kanban transaction records that satisfy the selection criteria are deleted from the database. If you set Archive to Yes, deleted data are copied to an ASCII file that can be reloaded using Archive File Reload. Otherwise, deleted data cannot be recovered.

When Archive is Yes, the system stores selected data in a file named kbYYMMDD.hst where kb is the record type and YYMMDD is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran delete/archive the same day, the system adds the additional archived records to the end of the file.

Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Important Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, use Users to temporarily change your country code to match that of the user who archived the data.

You should define menu security for this program.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Transaction Type

Optionally, enter a range of kanban transaction numbers for selecting records to delete/archive.

Each time you process a kanban card using one of the programs on the Kanban Transactions, the system generates a transaction history record and assigns it a number. Use the views or inquiries on that menu to determine transaction numbers.

Item

Optionally, enter a range of kanban item numbers for selecting records to delete/archive.

Kanban items are identified using Kanban Items.

Transaction Dates

Enter the range of transactions date for this function to consider or to include in this report Leave blank to include all dates.

Supermarket Site

Optionally, enter a range of kanban supermarket site codes for selecting kanban transaction history records.

Supermarket

Optionally, enter a range of kanban supermarkets for selecting kanban transaction history records.

Source Type

Optionally, enter a type of supplying source for kanban loops to select loops for card management activities. If you do not select a value, the system includes all source types.

Source types are:

- Inv. The item is supplied from the inventory of a kanban supermarket.
- Process. The item is manufactured by a kanban process.
- Supplier. The item is purchased from an external supplier.

Source Site

Optionally, enter a range of site codes associated with source processes or inventory supermarkets that supply kanban loops to be included in the selection.

Process

Optionally, enter a range of process IDs to be selected by this function.

Source Supermarket

Optionally, enter a range of supplying supermarkets for selecting kanban transaction history records.

Supplier

Optionally, enter a range of supplier address codes for selecting kanban transaction history records.

Purchase Order

Optionally, enter a range of purchase order numbers for selecting kanban transaction history records. The system includes transactions that were recorded against purchase orders in the specified range using the Fill/Receive action in **Kanban Cards.**

You can further limit the selection by specifying a range of purchase order line numbers.

Purchase Order Line

Optionally, enter a range of purchase order line numbers for selecting kanban transaction history records.

Kanban ID

Optionally, enter a range of system-assigned kanban card ID numbers for selecting records to delete/archive.

Delete

Indicate whether to delete the selected records or generate a report only.

No: The selected records are not deleted. A report is generated listing the selected records.

Yes: The selected records are deleted from your database and listed in a report.

If you set Archive to Yes when Delete is Yes, the selected records are copied to an ASCII file before deletion. Use Archive File Reload to reload the data, if needed.

Archive

Indicate whether to archive the selected records.

No: The selected records are not copied to an ASCII file.

Yes: The selected records are copied to an ASCII file. The system creates a file name in the following format: xxYYMMDD.hst, where xx identifies the module code or record type and YYMMDD is the file creation date. If this file does not exist, it is created. If it does exist, records are appended to the end.

Note Archive is only possible when Delete is Yes.

Archive File

The system generates a comma-delimited file.

Click **Run** to generate the report.

Inventory Validation Report

Use this program to compare the calculated kanban quantity on hand with the supermarket location on-hand balance. The kanban quantity on hand is equal to the number of full kanban replenishment cards multiplied by the kanban quantity. This is expressed either as supermarket inventory or as work-in-process (WIP) inventory, depending on the value of Location Type in **Kanban Supermarkets**.

Note Inventory Validation compares balances only for supermarkets with Location Type set to Inventory. For WIP supermarkets, the report shows only the kanban information.

If a large discrepancy exists between these two quantities, you might need to verify the status of cards in the loop or perform a cycle count.

Some manufacturing environments do not record inventory transactions by receiving items or backflushing components at the same time they record kanban transactions. In such cases (where Impact Inventory is unselectedin **Kanban Masters**), this report considers two factors designed to avoid misleading results. These factors also are based on settings in **Kanban Masters**:

- Lag factor. This is the number of kanbans that are typically in production at any one time. For inventory supermarkets, the report adjusts the location on-hand balance by the quantity represented by this number of kanbans.
- Tolerance percentage. This is the acceptable difference between the kanban quantity and the inventory supermarket location on-hand balance. When a supermarket includes an item that has different tolerance percentages for different loops, the system applies the smallest percentage to determine if the overall supermarket quantity is out of tolerance.

Enter selection criteria to determine the loops to be included. The resulting report displays the following:

- Source, including purchase order information, if applicable
- Number of full kanbans and quantity in each
- Kanban WIP quantity; applies only when loop supplies a supermarket location type of WIP
- Kanban inventory quantity; applies only when loop supplies a supermarket location type of Inventory

For loops that supply an inventory-type supermarket location, the report also displays:

- Lag factor quantity, calculated as the lag factor for the kanban loop times the kanban quantity
- On-hand inventory balance at the supermarket location

- Adjusted balance, calculated as on-hand balance minus lag factor quantity
- Tolerance percentage specified for the loop
- Out-of-tolerance indicator

Use Sort By to control the structure of the report. This field also determines the way subtotals and totals are calculated.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Supermarket Site

Optionally, specify a range of sites for selecting loops to include in the report.

Supermarket

Optionally, specify a range of kanban supermarkets for selecting loops to include in the report.

Item

Optionally, specify a range of kanban items for selecting loops to include in the report.

Location

Optionally, specify a range of supermarket location codes for selecting loops to include in the report.

Type

Optionally, specify a range of supermarket location types for selecting loops to include in the report. The location type for a kanban supermarket is specified in Kanban Supermarkets.

You can define the location as either:

- Inventory
- Work-in-process (WIP)

Sort by

Specify the order in which the system sorts the report. Valid values are:

1: Item, location

2: Location type, item, location

3: Location, item

4: Location type, location, item

This setting also determines the way subtotals and totals are calculated:

- For options 1 and 2, the system displays subtotals by location and totals by item.
- For options 3 and 4, the system displays subtotals by item and totals by location.

Display WIP Loops

Enter Yes to include loops supplying a supermarket that has Location Type set to WIP in Kanban Supermarkets. When this field is No, only Inventory supermarkets are included.

When the system displays WIP loops, information is limited to the number of full kanban cards, the kanban quantity, and the calculated total WIP quantity represented by the full cards. Lag factor and tolerance information is not relevant to WIP supermarkets.

Click **Run** to generate the report.

Kanban Process Item Operation Roll-up

Optionally, use **Kanban Process Item Operation Rollup** to calculate setup, cycle time, run time, and yield percent data for all operations from routing records associated with items produced by specified processes. This data is then available for use in supermarket and kanban sizing calculations.

Note You should not run this program if you enter process times and yield percentages manually in Kanban Processes. If you do and the system finds routing records for the item, it will overwrite the manual values.

Enter ranges of sites and kanban processes to select items for rollup. The system validates that you have security access to all sites within the specified range.

Only routing records whose effective date ranges include the specified date are selected.

To run the rollup in simulation mode without updating the database, set Update to No.

The system searches for items associated in Kanban Processes with processes matching the selection criteria. If a routing code is specified in Kanban Items, that routing is used. Otherwise, the system uses the item number to find the default routing. It then calculates process-level values based on all the operations specified Kanban Processes and updates the appropriate process item detail record in that program:

- Setup Time is set to the total of all the setup times defined in Routings for operations in the Start/End Op range.
- Cycle Time is set to the longest run time among the operations.
- Work Time is set to the total of the run times for all the operations.
- Yield is set to the result of multiplying the yield percentages of all the operations.

Note When you roll up routing times, rounding in the seconds field may display a slightly different result than manual calculations of the values specified for operations. However, the database stores the number to 10 decimal places, and this level of precision is available to system calculations.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Site

Optionally, enter a range of sites that will have kanban processes selected for rollup in this program.

Process

Optionally, enter a range of process IDs to be selected by this function.

Effective Date

Enter the date the system should consider in selecting routing records for specified kanban processes. It rolls up operation times only when the effective date range specified in Routingsincludes the value in this field.

The default is the current date.

Update

Indicates whether this program should be executed in a report-only mode or changes to the database should be made.

- Enter No to execute the program without making any modifications to database records. A report is generated listing the records that will be affected. It is recommended that you always execute the program with update set to No before actually making changes.
- Enter Yes to update database records.

Click **Run** to generate the report.

Loop Analysis and Recommendations

Use **Loop Analysis and Recommendations** to view buffer and card information by status (active, inactive, and so on), as well as recommendations for synchronizing the number of active cards with the system-recommended maximum number of cards for each loop. This may require creating, activating, closing, or inactivating cards. Optionally, you can have the system implement recommended changes.

Note This function does not do kanban sizing; it only adjusts the number of cards used to support existing buffers.

Leave Update set to No to run the report in simulation mode so that you can review the proposed changes. Change Update to Yes to have the system automatically adjust the number of cards in selected loops. When you update kanban loops, the output report includes a list of individual kanban cards that were created, activated, closed, or inactivated. The simulation report does not include card-level information.

For reporting and analysis purposes, you can include loops that the system considers to have the correct number of active cards by setting Display Out of Synch Loops Only to No. When Update is Yes, the system does not modify these loops.

If additional cards are needed, the system uses the phase-in method specified in Kanban Control to determine if inactive cards should be activated before new ones are created. When the method is Activate, the system first activates any existing inactive cards, then creates new cards to reach the total required. When it is Create, the system creates the required number of cards even if inactive cards exist.

If fewer cards are needed, the system first checks the value of the Decrease at Consume field specified for the loop in **Kanban Masters**.

- When Decrease at Consume is enabled, the system does not inactivate or close cards as part of this program, although inactivate and close recommendations display on the analysis report. Instead, because of the logic associated with the Decrease at Consume field, the cards are deactivated the next time they are recorded in the **Consume/Post** action in **Kanban Cards**. The system displays a message to inform the user that the card should be physically removed from the loop.
- When the field is No, the system uses the phase-out method specified in **Kanban Control** to determine if cards should be closed or inactivated.

When Phase-Out Method is Close, the system sets the status of unneeded cards to Close unless they are currently in Empty Accumulate status; these cards are inactivated immediately. Cards with Close status are inactivated the next time they are recorded in the Consume/Post in Kanban Cards.

When Phase-Out Method is Inactivate, unneeded cards are inactivated immediately, even if they are currently full.

As part of the analysis task, the system verifies that the kanban quantity on the card matches the current kanban quantity for the loop. If it detects cards where this is not true, it sets the Regenerate Required field for the loop to Yes. When you run the program in update mode, this causes all existing cards to be replaced by a new set of cards, regardless of the setting of Decrease at Consume. The phase-out method specified in Kanban Control determines how the cards being replaced are inactivated.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Supermarket Site

Optionally, specify a range of supermarket sites for selecting loops to be included in the report.

Supermarket

Optionally, specify a range of supermarket IDs for selecting loops to be included in the report.

Item

Optionally, specify a range of kanban items numbers for selecting loops to be included in the report.

Step

Optionally, specify a range of process step numbers for selecting loops to be included in the report.

Source Site

Optionally, enter a range of site codes associated with source processes or inventory supermarkets that supply kanban loops to be included in the selection.

Source

Optionally, enter a range of source ID numbers to select kanban records for export. Kanban loops can be associated with three types of sources:

- External suppliers
- Inventory supermarkets

- Manufacturing processes

Kanban Planner

Optionally, enter the code representing the kanban planner associated with loops to be included in the report.

This field is validated against values entered in Generalized Codes for field knb_planner.

Source Type

Optionally, enter a type of supplying source for kanban loops to select loops for card management activities. If you select All, the system includes all source types.

Source types are:

- Inventory. The item is supplied from the inventory of a kanban supermarket.
- Process. The item is manufactured by a kanban process.
- Supplier. The item is purchased from an external supplier.

Card Type

Specify which types of kanban cards are affected by this function.

- Replenishment: Replenishment cards only
- Move: Move cards only

  Note For one-card loops, specifying Move has no effect.

Display Out of Synch Loops Only

Indicate whether the selection should be limited to loops that have differences between the actual number of active cards and the system-recommended number.

Yes (the default): The analysis and recommendations function includes only loops in which the number of non-limited use cards with the Active field selected does not equal the number of cards specified for the loop in Kanban Masters.

No: The analysis displays all loops meeting the selection criteria entered in the first frame. Loops that already have the system-recommended number of cards display recommended increases or decreases as 0 (zero).

Update

Select Yes to run this program in update mode and change records in the database.

Select No to run this program in report-only mode without updating the database. A report prints for review with SIMULATION displayed at the top of each page.

Click **Run** to generate the report.

Missing Kanbans

Use the **Missing Kanbans** report to generate a list of kanban cards that have not had transactions recorded within the time specified in the Maximum Cycle field of **Kanban Masters**. If the elapsed time between a card's last recorded transaction and the current time is greater than the Maximum Cycle value, the card displays on this report, which includes the number of days since it was last recorded.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Optionally, enter a range of kanban item numbers to be included in the report.

Kanban items are identified using Kanban Items.

Step

Optionally, enter a range of process steps to be included in the report.

Steps are associated with items using Kanban Items.

Supermarket Site

Optionally, enter a range of kanban supermarket site codes for selecting kanban transaction history records.

Supermarket

Optionally, specify a range of kanban supermarkets to be included in the report.

Source Site

Optionally, specify a range of source sites to be included in the report.

Source Type

Enter a source type to be included in the report.

- All: The system prints all cards that meet the selection criteria.
- Inventory: Selection is limited to loops supplied from the inventory of a kanban supermarket.
- Process: Selection is limited to loops supplied by a kanban process.

- Supplier: Selection is limited to loops supplied from an external supplier.

Process

Optionally, specify a range of processes to be included in the report.

Source Supermarket

Optionally, specify a range of source supermarkets to be included in the report.

Supplier

Optionally, enter a range of supplier address codes for selecting kanban transaction history records.

Purchase Order

Optionally, enter a range of purchase order numbers for selecting kanban transaction history records. The system includes transactions for supplier loops that have purchase orders in the specified range associated with them in Kanban Masters. You can further limit the selection by specifying a range of purchase order line numbers.

Purchase Order Line

Optionally, enter a range of purchase order line numbers for selecting kanban transaction history records.

Production Line

Optionally, enter a range of production lines that provide material for kanban loops to be included in the report.

Associate production lines with kanban processes in Kanban Processes.

User Reference

Optionally, enter a user reference associated with kanban loops to be included in the report.

Associate user references with kanban loops in Kanban Masters.

Kanban ID

Optionally, enter a range of system-assigned kanban card ID numbers to be included in the report.

Transaction Event

Enter the code for the most recent transaction event for selecting cards to include in the report.

If you enter a value, only cards that were last assigned this status will be selected. Select All to include all cards meeting the other selection criteria.

Click **Run** to generate the report.

Kanban Safety Stock Calculation

Use this program to calculate safety stock for kanban supermarkets.

Note To ensure that the system uses up-to-date demand information in safety stock calculations, you should run **Kanban Average Demand Calculation** before using this program.

Safety stock is a type of buffer inventory that guards against running out of stock during the time it takes to replenish a supermarket's regular inventory. For example, it is useful when actual usage exceeds forecasted demand. However, because a key lean manufacturing principle is to reduce inventory to the lowest practical level, accurate safety stock calculations are required to avoid excessive buffer inventories.

Before running this program, use **Demand Calculation Template** to define the historical and future time periods the system uses in safety stock calculations. In some manufacturing environments, historical usage is a good indicator of safety stock requirements for an item; in others, forecast and future orders are better indicators. You can define as many templates as you want with different numbers of historical days, future days, or combinations of both. Specify a default safety stock template for new kanban loops in **Kanban Control**; you can change the default as needed for individual loops in Kanban Masters.

When you run **Kanban Safety Stock Calculation**, the system uses the template defined for each loop that meets the selection criteria. If a loop is included that does not have a safety stock template specified, it displays on the report only when Display Blank Template is Yes.

Set Update to No to review a report of simulated results before updating the database. The report output shows both the previous and new safety stock for each kanban item within the selection range, as well as various supermarket and kanban information.

When Update is Yes, the system modifies kanban loop records to include the recalculated data.

Note The system also can update safety stock when you run **Evaluate Historical Buffers**.

Calculation Logic

The system calculates safety stock based on values specified for the item in Kanban Masters. The system calculates safety stock only when **Kanban Safety Stock Method** is set to Simple or Peak. When it is Manual, you can enter a safety stock quantity or number of days manually.

Simple: The system calculates a standard deviation of average demand over the number of days in the planning horizon, which is the total number of historical and future days specified in **Demand Calculation Template**.

It then multiplies this demand by a service factor associated with the specified service level. To use this method, you must enter a valid value in Service Level.

Peak: The system calculates the average demand for each n-day period within the planning horizon defined in **Demand Calculation Template**, where n is the value specified in Peak Average Days. Safety stock is based on the highest average demand during an n-day period. When you use this method, the Service Level is for reference only and is not used in the safety stock calculation.

Settings

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Section

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Supermarket Site

Specify a range of sites with kanban items to be selected for safety stock calculations.

Item

Specify a range of kanban items to be selected for safety stock calculations.

Safety Stock Template

Specify a range of safety stock templates to be used for selecting kanban loops that will have safety stock calculated.

If you enter a range of templates, only loops associated with these templates in **Kanban Masters** will have safety stock calculated.

Display Blank Template

Specify whether the report output from this program should include loops that do not reference a safety stock template in **Kanban Masters**.

No: Only loops that actually have safety stock calculations performed are included in the report output. The output report displays both previous and new values.

Yes: The report also includes loops that do not specify a safety stock template. However, because no value is calculated, the report displays the safety stock value from **Kanban Masters** as both the previous and new values.

Update

Indicates whether this program should be executed in a report-only mode or changes to the database should be made.

Enter **No** to execute the program without making any modifications to database records. A report is generated listing the records that will be affected. It is recommended that you always execute the program with update set to No before actually making changes.

Enter **Yes** to update database records.

Click **Run** to generate the report.

Kanban Supermarkets

These areas can include stockroom locations, work center locations, work in process (WIP) holding areas, and so on. Supermarkets can absorb variations in demand, compensate for differences in processing time among production operations, and allow a single work cell or operation to supply multiple downstream processes with different, variable rates of demand.

Supermarkets can be defined to store either WIP inventory or finished goods. Typically, WIP supermarkets are placed at points in the overall workflow when continuous flow is interrupted and first-in, first-out (FIFO) lanes are not practical. Finished goods supermarkets are often created as staging areas just before the final packaging or shipping process.

Supermarkets can be supplied by a manufacturing process, an external supplier, or another supermarket, depending on how the loop is defined in Kanban Master. A supermarket can supply more than one kanban loop and stock more than one item.

You can specify fax and e-mail contact information for the supermarket to be used by Kanban Dispatch List Processing.

Kanban Supermarkets View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays key data about the kanban supermarket you are working on, including the supermarket site, supermarket and inventory location fields. These fields are read-only and stay in view even when you scroll down the page.

Main Panel

Supermarket Site

Enter the site where the kanban supermarket is located. This site must be defined in Sites. This field is mandatory.

Supermarket

Enter an alphanumeric identifier for the kanban supermarket. This field is mandatory. Optionally on the right side of the field, you can add a brief description.

Location Type

Enter the type of inventory that is stored at this supermarket:

- INV: Finished goods, internally produced subassemblies, raw materials, or purchased components. This is the default value.
- WIP: Internally produced items in a semi-completed, work in process (WIP) state.

Inventory Location

Enter the location associated with this supermarket.

Supermarket Fax

Optionally enter the primary fax number for this kanban supermarket. When primary and secondary fax numbers are specified, both numbers, separated by a comma, are printed on the first line of the fax report.

This field is used when a kanban dispatch list is output as a fax and this supermarket is the destination for the loop. When dispatch lists are processed, kanban data can be sorted by supplying source or consuming destination. The dispatch list can be faxed to the supplying source, consuming destination, or both.

When searching for a fax number for the destination supermarket, the system first looks for a loop-specific supermarket fax number defined in Kanban Master. If not specified, it uses this field. If it is blank, the system looks for the fax number associated with the supermarket site address in Addresses.

Supermarket Fax [2]

Optionally enter a secondary fax number for this kanban supermarket. When primary and secondary fax numbers are specified, both numbers, separated by a comma, are printed on the first line of the fax report.

This field is used when a kanban dispatch list is output as a fax and this supermarket is the destination for the loop. When dispatch lists are processed, kanban data can be sorted by supplying source or consuming destination. The dispatch list can be faxed to the supplying source, consuming destination, or both.

When searching for a fax number for the destination supermarket, the system first looks for a loop-specific supermarket fax number defined in Kanban Masters. If not specified, it uses this field. If it is blank, the system looks for the fax number associated with the supermarket site address in Addresses.

E-Mail

Optionally enter an e-mail address for the supermarket associated with this kanban controlled item.

This field is used when a kanban dispatch list is output as an e-mail notification and this supermarket is the destination for the loop. When dispatch lists are processed, kanban data can be sorted by supplying

source or consuming destination. The dispatch list can be e-mailed to the supplying source, consuming destination, or both.

When searching for a fax number for the destination supermarket, the system first looks for a loop-specific e-mail address defined in Kanban Master. If not specified, it uses this field.

Notes Panel

On the **Notes** Details view, you can add and edit notes attached to the kanban supermarkets.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Notes

Enter the body of the note attached to the kanban supermarket.

Reference

Select a reference for the note.

Language

Select a language for the note.

Type

Select the document type for the note.

Creating Kanban Supermarkets

1. Go to **Kanban Supermarkets**.
2. Click **New**.
3. Complete the fields described in Kanban Supermarkets View on page 4285.
4. Click **Save** to create a new record.

Modifying Kanban Supermarkets

1. Go to **Kanban Supermarkets**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Kanban Supermarkets

1. Go to **Kanban Supermarkets**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.

Kanban Card Audit

Use Kanban Card Audit report to generate a comparison of the system recommended number of kanban cards in a loop with the actual current number of active cards. The report also shows the number of inactive cards that exist for the loop, if any.

Note The report includes only loops for which there is a difference between the recommended and actual number of cards. When those numbers are identical, the loops are not displayed.

Settings Panel

The Settings panel, which is closed by default, includes subpanels for Format, Date Display, and Decimal Display settings. For more information, see Reports.

Filter Panel

The Filter panel, which is open by default, contains the criteria used to filter the data in the report. The criteria are explained below:

Item

Optionally, enter a range of kanban item numbers to be included in the report.

Kanban items are identified using Kanban Items.

Supermarket Site

Optionally, enter a range of sites that use kanban loops as sources of supply to be included in the report.

Supermarket

Optionally, specify a range of kanban supermarkets to be included in the report.

Source

Optionally, enter a range of source identifiers for kanban loops to be included in the report. Sources can be kanban manufacturing processes, inventory supermarkets, or supplier addresses.

Click **Run** to generate the report.

Kanban Container Types

You can identify a variety of characteristics of a container, including several dimension and weight parameters, as well as user-defined reference fields.

Associate a default container type with a kanban item in Kanban Items. You can update the default value for each kanban loop in Kanban Masters.

Note Most of the fields in this program are currently for reference only.

Kanban Container Types View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the name of the container type you work on. These fields are read-only and remain visible when scrolling down the page.

Main Panel

Container Type

Enter an alphanumeric identifier for this container type.

Description

Enter a descriptive name to associate with this container type.

Height

Optionally, enter the height of this container. You can specify a single unit of measure for height, width, and length.

Width

Optionally, enter the width of this container.

Length

Optionally, enter the length of this container.

Tare Weight

Optionally, enter the empty weight of this container. You can specify a single unit of measure for tare weight and maximum load.

Maximum Load Weight

Optionally, enter the heaviest total weight that can be placed in this container.

Volume

Optionally, enter the volume of this container.

Thickness

Optionally, enter the thickness of the primary material used to build this container. For example, if the container is made of wood, this might be the thickness of the boards used to make the walls.

Size

Optionally, enter a size category associated with this container type. For example, you might categorize containers by physical size (large, medium, small) or load capacity (heavy, light).

This field is validated against values entered in Generalized Codes for field cont_size.

Color

Optionally, specify the color associated with this container type.

This field is validated against values entered in Generalized Codes for field cont_color.

Class

Optionally enter a class code associated with this container.

This field is validated against values entered in Generalized Codes for field cont_class.

Composition

Optionally, enter the material used to fabricate this type of container.

This field is validated against values entered in Generalized Codes for field cont_composition.

Container Owner

Optionally, enter which participant in the kanban life cycle owns this container. Valid values are:

- Company. Your company owns the container.
- Supplier. The external supplier of the kanban item owns the container.
- Customer. Your end customer owns the container.

Container ID Method

Optionally, specify the method used to identify this container.

This field is validated against values entered in Generalized Codes for field cont_id_method.

For example, you might set up values such as Removable or Permanent to indicate how you attach kanban cards to the container.

Reference 1

Optionally, specify a user-defined reference code associated with this container type.

This field is validated against values entered in Generalized Codes for field cont_reference1.

Reference 2

Optionally, specify a user-defined reference code associated with this container type.

This field is validated against values entered in Generalized Codes for field cont_reference2.

Reference 3

Optionally, specify a user-defined reference code associated with this container type.

This field is validated against values entered in Generalized Codes for field cont_reference3.

Reference 4

Optionally, specify a user-defined reference code associated with this container type.

This field is validated against values entered in Generalized Codes for field cont_reference4.

Reference 5

Optionally, specify a user-defined reference code associated with this container type.

This field is validated against values entered in Generalized Codes for field cont_reference5.

Reusable

Select this checkbox if this type of container is typically refilled after the contents are consumed. Otherwise, leave unselected.

Returnable

Select this checkbox if this type of container is typically returned to the source of supply when it is empty. Otherwise, leave unselected.

Special Requirements

Select this checkbox if there are any special packaging or handling requirements associated with this type of container. Otherwise, leave unselected.

Notes Panel

On the **Notes Details** view, you can add and edit notes attached to the kanban container type.

Page

The system generates a page number value, which is displayed in this field. You have the option to modify the page numbers according to your preference.

Select Master Note

Enables master comments to be attached to the kanban container type. You can enter the master reference and type in a pop-up frame or leave the fields blank to display a selection list of existing master comments. Select one or more of them for copying into the kanban process.

Note Define master comments with Master Notes. You can use master comments to create reusable text templates that can be pulled into change documents and then edited. They might include legal disclaimers, checklists, standard operating procedures, company policies, or internal surveys.

Notes

Enter the body of the note attached to the kanban container type.

Reference

Select a reference for the note.

Language

Select a language for the note.

Tyoe

Select the document type for the note.

Creating Kanban Container Types

1. Go to **Kanban Container Types**.
2. Click **New**.
3. Complete the fields described in Kanban Container Types View on page 4289.
4. Click **Save** to create the new record.

Modifying Kanban Container Types

1. Go to **Kanban Container Types**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Kanban Container Types

1. Go to **Kanban Container Types**.
2. Select the row of interest, and double-click the row.

3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.

Demand Calculation Template

You can define multiple templates with various combinations of historical and future days. Specify a default template for each type of calculation in Kanban Control. You can update the default value in Kanban Masters for individual kanban loops. The system uses the specified combination of historical and future days for the loop when you run Kanban Average Demand Calculation or Kanban Safety Stock Calculation, as well as when you update average demand or safety stock.

Note Historical Demand Source and Future Demand Source are display only. The system currently uses only invoice history records for determining past demand and MRP detail records for determining future demand.

Demand Calculation Template View

Summary Panel

The Summary panel is located between the menu bar and the navigation bar. It displays the key data of the demand calculation template you work on, including the template and description. These fields are read-only and remain visible when scrolling down the page.

Main Panel

Template

Enter a name for this template.

Description

Optionally, enter an alphanumeric description of this template. This field is for reference and may display in other programs and reports.

Historical Demand Source

Specify the number of days of historical demand the system considers for calculating average demand and safety stock. The system selects invoice history records for this number of days as the basis for calculations.

If you do not want to use historical demand, leave Historical Work Days set to 0 (zero).

To use a combination of historical and future demand, specify appropriate values in both Historical Work Days and Future Work Days.

Future Demand Source

Displays the future demand source. The system currently uses only invoice history records for determining past demand and MRP detail records for determining future demand.

Future Work Days

Specify the number of days of future demand the system will consider for calculating average demand and safety stock. The system selects MRP detail records for this number of days as the basis for calculations.

If you do not want to use future demand, leave Future Work Days set to 0 (zero).

To use a combination of historical and future demand, specify appropriate values in both Historical Work Days and Future Work Days.

Creating Demand Calculation Templates

1. Go to **Demand Calculation Template**.
2. Click **New**.
3. Complete the fields described in Demand Calculation Template View on page 4294.
4. Click **Save** to create the new record.

Modifying Demand Calculation Templates

1. Go to **Demand Calculation Template**.
2. Select the row of interest, and click **Edit**.
3. Edit the applicable information.
4. Click **Save** to continue.

Deleting Demand Calculation Templates

1. Go to **Demand Calculation Template**.
2. Select the row of interest, and double-click the row.
3. Click the **Delete** button.
4. The system prompts a delete confirmation message. Click **Delete**.