Inventory Control / Physical Inventory

TRAINING GUIDE

70-2853A
Database: Train eB2
June 2003

70-2853A

QAD Inc.
6450 Via Real
Carpinteria, California 93013
Phone (805) 684-6614
Fax (805) 684-1890

LearningServices@qad.com
http://www.qad.com/services/learn/

Contents

About This Course

Course Description

QAD designed this course to cover the basics of preparing to implement the Inventory Control module of MFG/PRO. The course includes

- An introduction to the Inventory Control module
- An overview of key business issues
- Setting up the Inventory Control module
- Using the Inventory Control module
- Activities and exercises throughout the course
  - Students practice key concepts and processes in the Inventory Control module

Students Learn How To

- Analyze some key business decisions before setting up the Inventory Control module
- Set up and operate the Inventory Control module in MFG/PRO

Who Should Attend This Course

- Implementation consultants and members of implementation teams
- Inventory Control Managers
- Key users

Prerequisites

- *Initial MFG/PRO Setup* training course
- Knowledge of basic manufacturing principles is beneficial

Approximate Length of Course

- This course is designed to be taught in one-half to one full day

Certification Preparation

This course is one of several courses designed to assist students in preparing for QAD certification examinations. However, QAD does not guarantee anyone a passing grade as a result of having taken this course.

Students preparing for certification examinations should study all available materials (user guides, training guides, and on-line help, for example) and acquire industry and field experience.

Using this Training Guide

Implementation consultants, members of implementation teams, and key users can use this guide in instructor-led classes, while knowledgeable consultants can use this guide for self-study.

This training guide provides a road map for instruction and learning. It contains

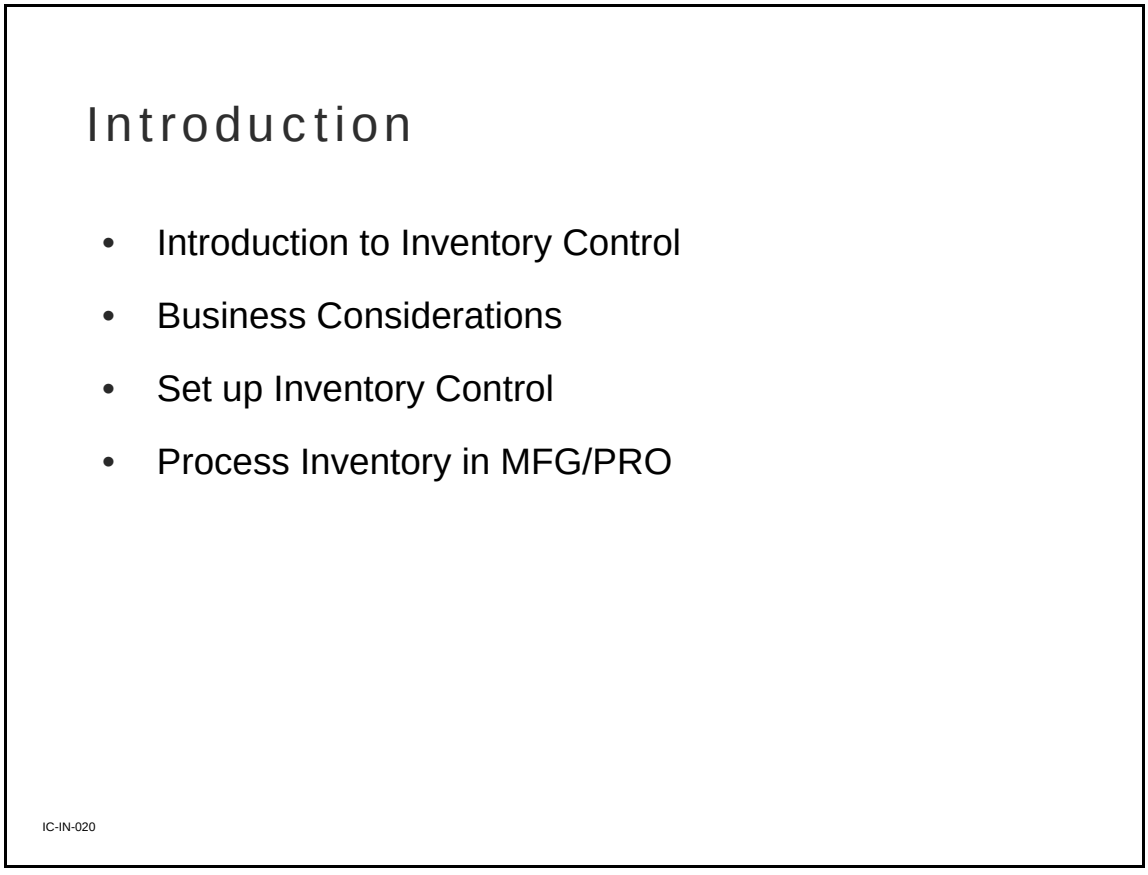
- Annotated PowerPoint slides for instructors
- MFG/PRO screens annotated for instructors to demonstrate the module's functionality
- Exercises and study questions

General Training Facilities Information

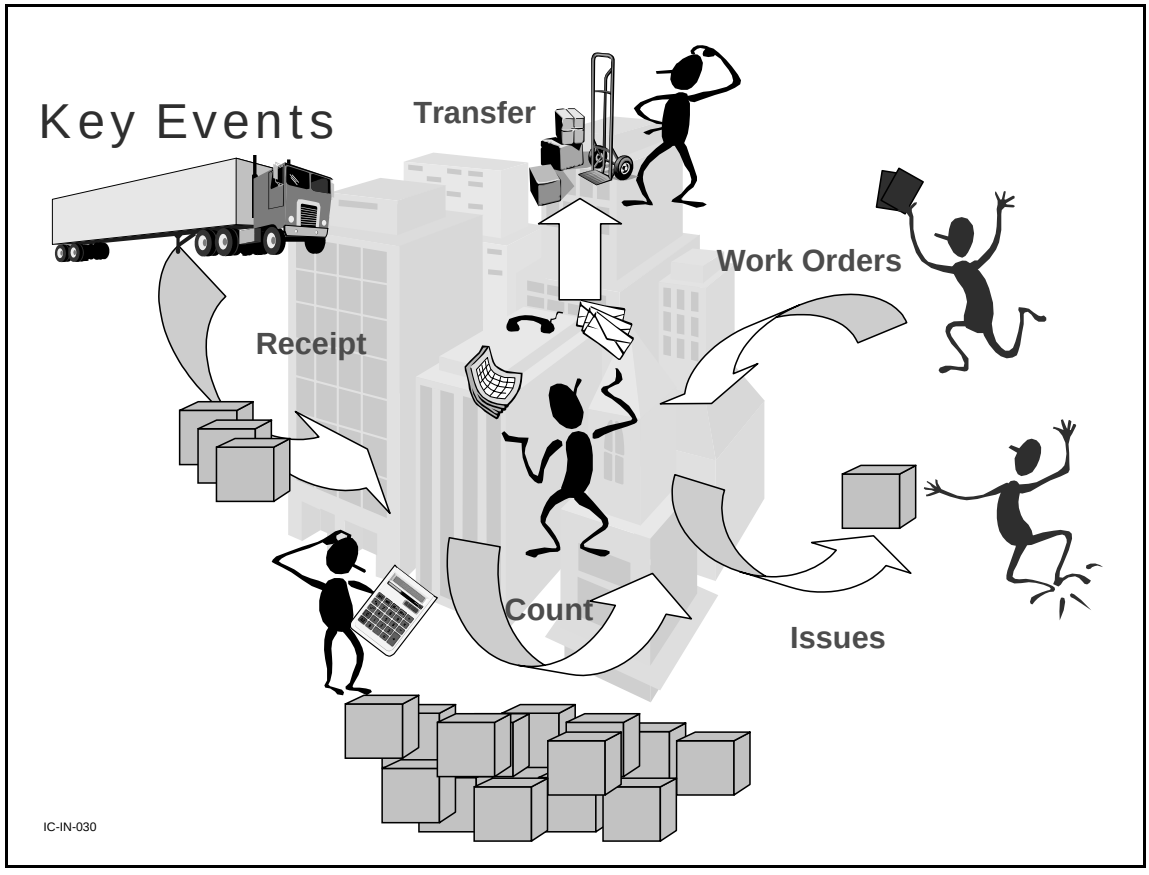
- Telephone or fax
- Messages
- Restrooms
- Class hours: start and finish times and punctuality
- Breaks: frequency, approximate times
- Parking considerations; carpooling
- Emergency procedures: location of first aid, contact person for assistance
- Exit locations, building hours
- Location of approved smoking area

CHAPTER 1

Introduction

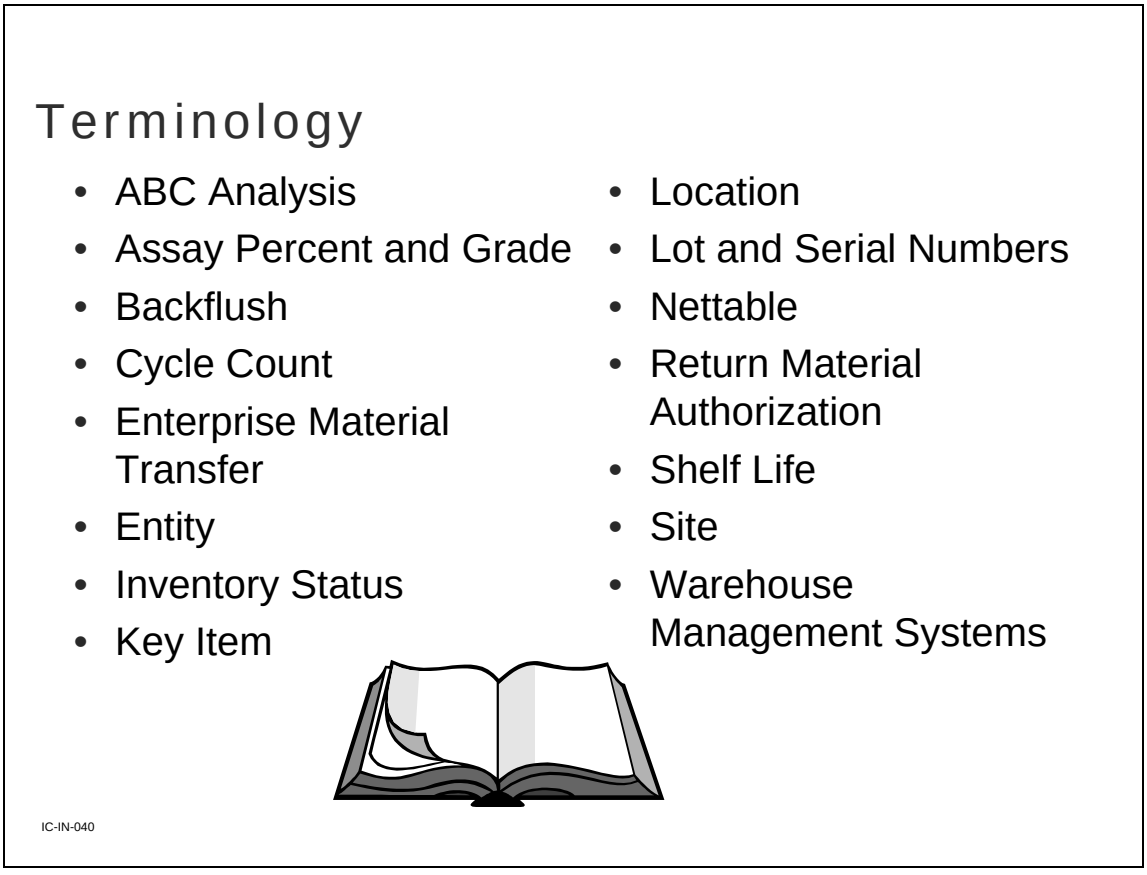


Course Overview



Inventory Control

- Materials are received into inventory
- Stock is issued to fulfill work orders
- Stock may also be transferred from one inventory location to another
- Stock is counted periodically to ensure that inventory records are accurate



Terminology

1 ABC Analysis

Classification of a group of items in decreasing order of annual dollar volume or other criteria.

a The A class usually represents 10% to 20% by number of items, and 50% to 70% by projected dollar volume.

b The B class usually represents about 20% by number of items, and 20% of the dollar volume.

c The C class contains 60% to 70% of the items and represents about 10% to 30% of the dollar volume.

The ABC principle states that effort and money can be saved through applying looser controls to the low-dollar-volume class items than will be applied to the high-dollar-volume class items. This is also known as Pareto's Distribution.

2 Assay Percent and Grade

Assay percent 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.

a An assay is a test of the physical and chemical properties of a sample.

b Grades are created by the sublabeling of items to identify their particular makeup and to separate one lot from other production lots of the same item.

Graded products include raw materials, intermediates, or finished goods.

Grades may determine the price charged for the finished product.

3 Backflush

Use backflush to report production activity on manufacturing work orders.

Each time you use this transaction to report production quantities, the system does one or more of the following:

a Issues (backflushes) components to the operation at which you are reporting.

b Backflushes labor and burden to the reporting operation.

c Moves the quantity processed to the input queue of the subsequent operation.

d Receives completed end items into inventory when you report production at the final operation in the routing. At this time, it also updates the quantity completed and reduces the quantity open on the applicable work order.

4 Cycle Count

A cycle count records the number of items physically counted, compares that number with the system quantity-on-hand, and (optionally) updates quantity-on-hand to equal the number counted.

5 Enterprise Material Transfer (EMT)

EMT is the automated translation of a sales order into a purchase order within a specific entity. It also includes the creation of sales orders in another entity. This process is common business practice among multinational companies.

6 Entity

The number of sets of financial statements produced by one database is determined by the number of entities set up. An independent unit for financial reporting purposes, an entity does the following:

a Generates a separate balance sheet and income statement.

b Plans budgets.

c Is assessed for taxes.

7 Inventory Status

Inventory status determines whether inventory balances are:

a Available for allocation.

b Considered by Material Requirements Planning (MRP).

c Allowed to go negative.

Inventory status also restricts particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Item quantities received into inventory are automatically assigned an inventory status. 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 numbers
- Reference numbers

8 Key Item

A key item is an item for which there must be sufficient quantity-on-hand for a work order to be released and a picklist printed. Key items are critical items.

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. If there is not enough glass available to fill an order, the order cannot be started.

9 Location

A location is a physical area where inventory is stored. Every item in inventory is associated with a location.

A given item may be stored in multiple locations. 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.

You can define the same location code for multiple sites. This is useful if you use an item at more than one site because you set up default locations in the item master rather than on individual item-site records.

10 Lot and Serial Numbers

If required, a lot number must be entered during issues and receipts. A lot number applies to the entire transaction quantity entered.

If serial numbers are required for an item, a unique serial number must be entered for each item during issues and receipts. For example, if you receive 10, you must enter 10 serial numbers. MFG/PRO maintains complete lot and serial number traceability.

11 Nettable

Nettable items are items that MRP and distribution requirements planning (DRP) count as part of quantity-on-hand

12 Return Material Authorization (RMA)

RMA is a transaction used to manage simple returns. It is an alternative to calls for tracking customer contact. RMA has the following aspects:

a Receipt of returned items for repair or replacement.

b Issue of replacement items.

c Documentation and billing of return activity.

RMA is generally used when engineer involvement is not required.

13 Shelf Life

Shelf life is typically defined for items that spoil or degrade over time.

You can use shelf life to set the expiration date for inventory. Inventory that has expired does not appear on picklists as a quantity to be picked.

MFG/PRO 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.

14 Site

Sites are areas where inventory is manufactured or stored. For example:

- Off-site storage
- Distribution centers
- Warehouses
- Manufacturing facilities
- Any combination of the above

All inventory control and planning information in MFG/PRO is maintained by site, including:

- Inventory availability
- Manufacturing methods and costs
- Sales
- Purchases
- Manufacturing plans and orders
- Forecasts

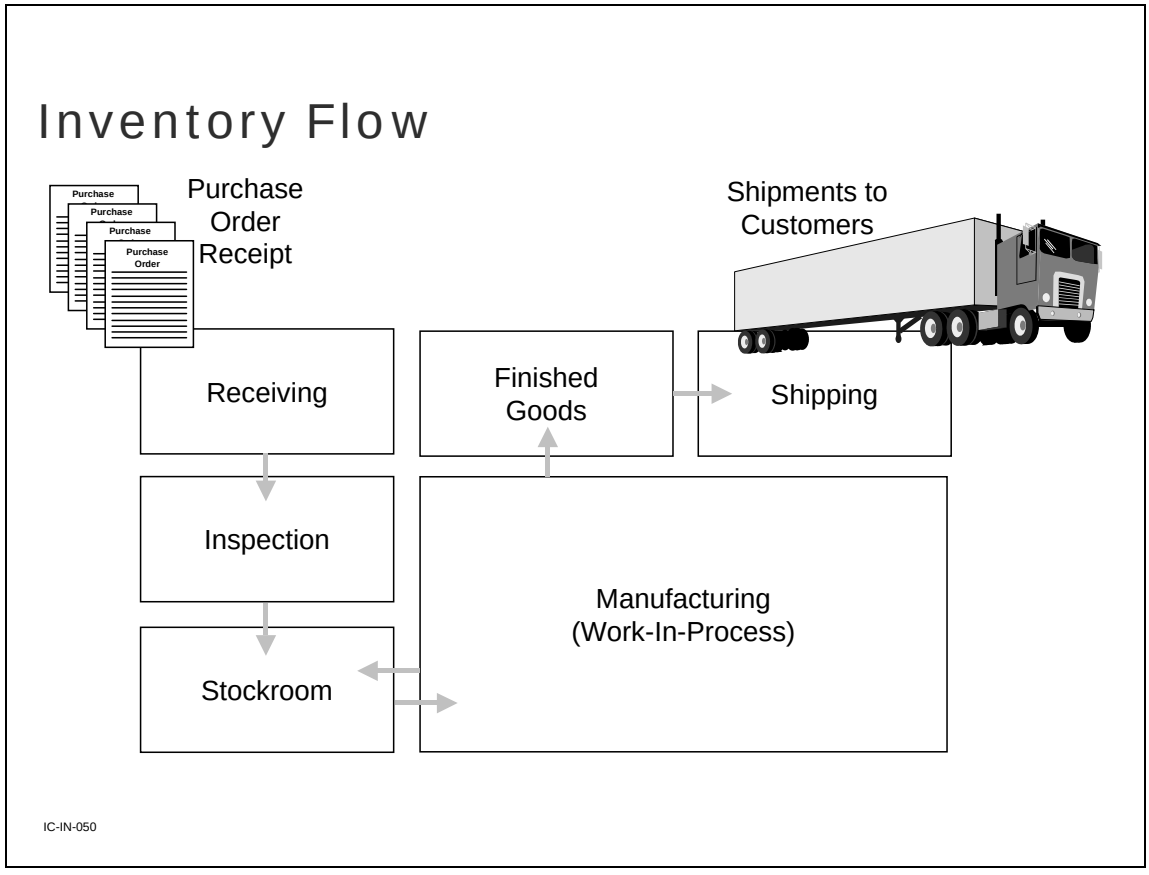
Each site is associated with a specific general ledger (GL) entity, allowing complete financial results to be maintained and monitored by site, or by groups of sites.

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. For example:

- Stockrooms
- Inspection stations
- Shop floors

15 Warehouse Management Systems

Warehouse Management Systems are computer applications used in external warehouse systems that exchange data with MFG/PRO through the warehousing interface.



Inventory Flow

Manufacturers buy raw materials or components and store them until they are needed for manufacturing. Once products are made, they are often stored until they are needed to fill a sales order or work order. Items stored for these purposes are called inventory.

Inventory is controlled by:

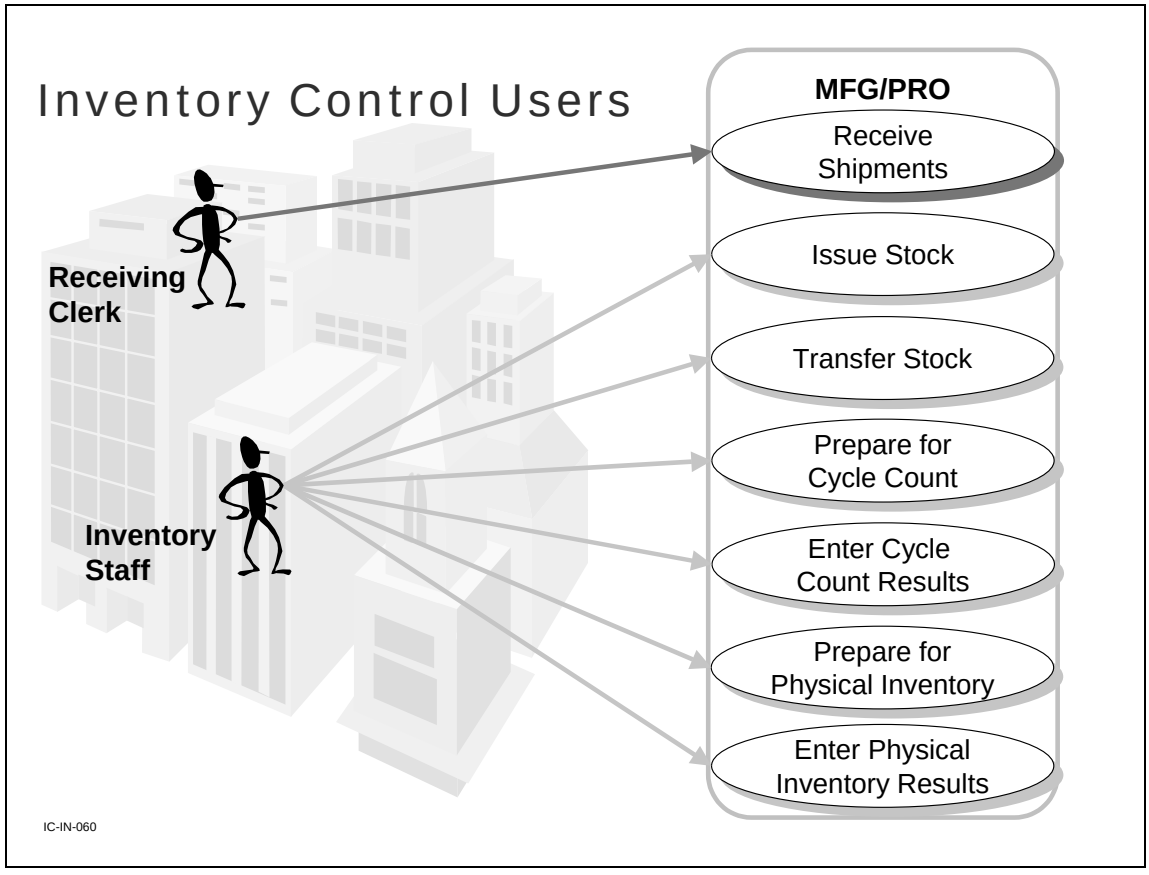
- Issues
  - Inventory removed from a stocking location
- Receipts
  - Inventory added to a stocking location

- Transfers
  - Inventory removed from one location and added to another
- Cycle Count Adjustments
  - On-hand inventory balance adjustments at a specific location for items selected for counting
- Physical Inventory
  - Counting entire inventory and changing inventory balance
- Lot and Serial Control
- Inventory Status Codes
- Shipping Groups

Most inventory transactions result from:

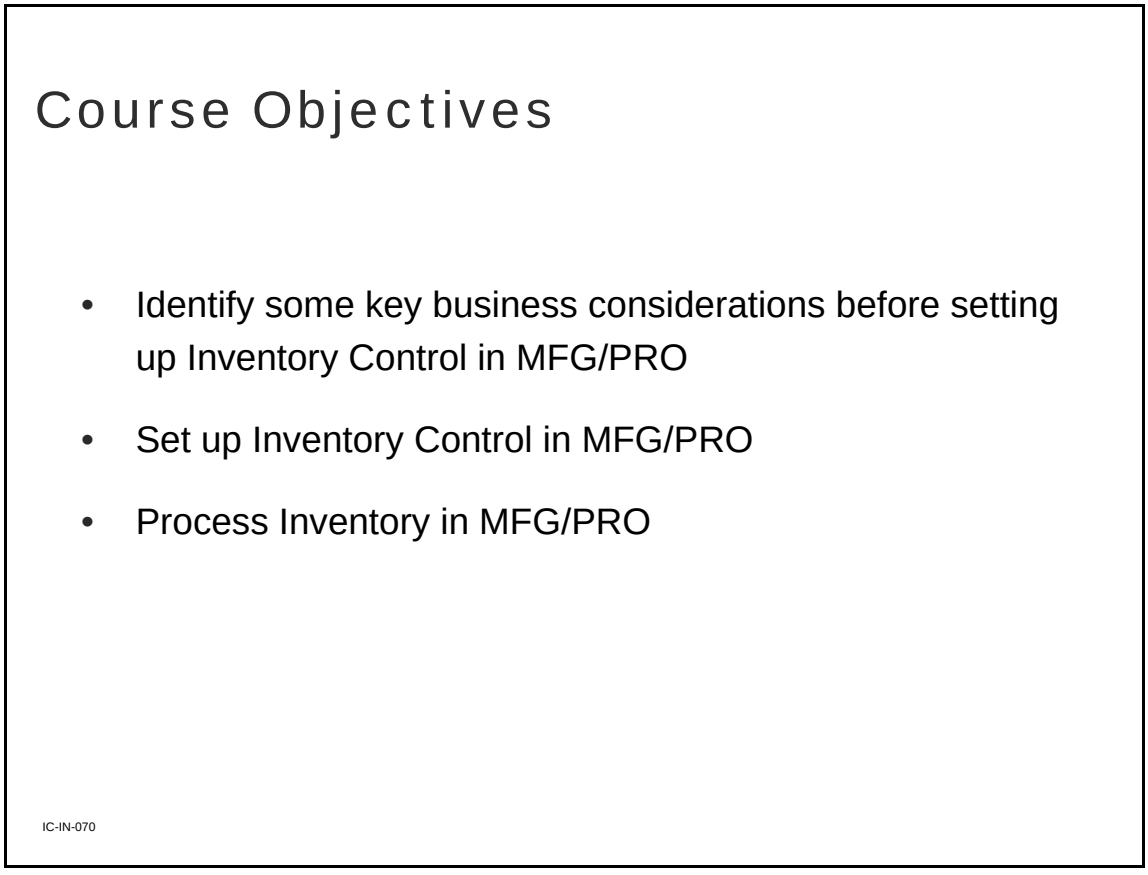
- Sales order allocations and shipments
- Purchase order receipts
- Work order issues and receipts

However, a few transactions, such as unplanned issues and receipts, are created in the Inventory Control module.

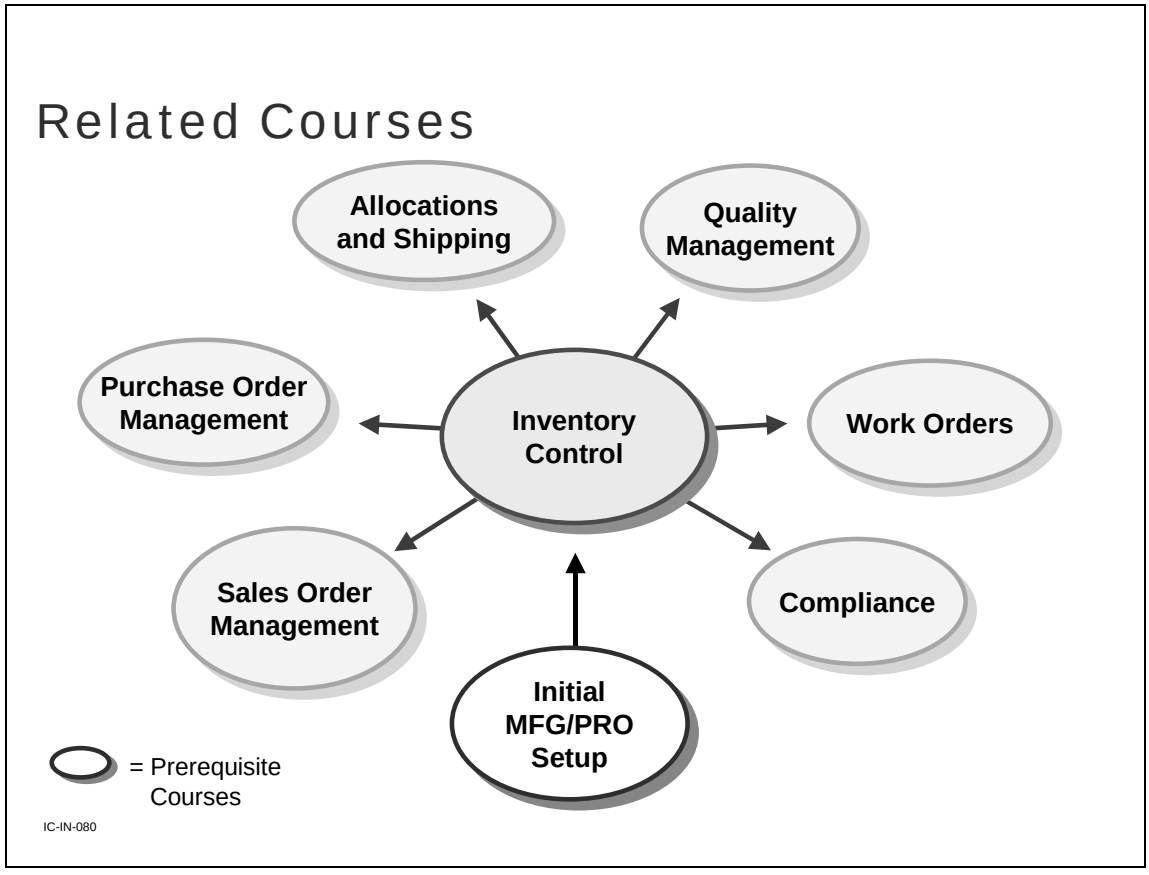


Inventory Control Users

The Inventory Control module is used by the inventory staff to perform the basic inventory functions.



Course Objectives



Related Courses

Summary

- ✓ Introduction to Inventory Control
- ♦ Business Considerations
- ♦ Set up Inventory Control
- ♦ Process Inventory in MFG/PRO

IC-IN-090

CHAPTER 2

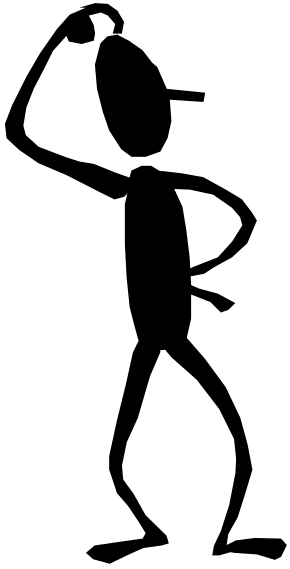
Business Considerations

Business Considerations

- ✓ Identify some key business considerations before setting up Inventory Control in MFG/PRO
- Set up Inventory Control in MFG/PRO
- Process Inventory in MFG/PRO

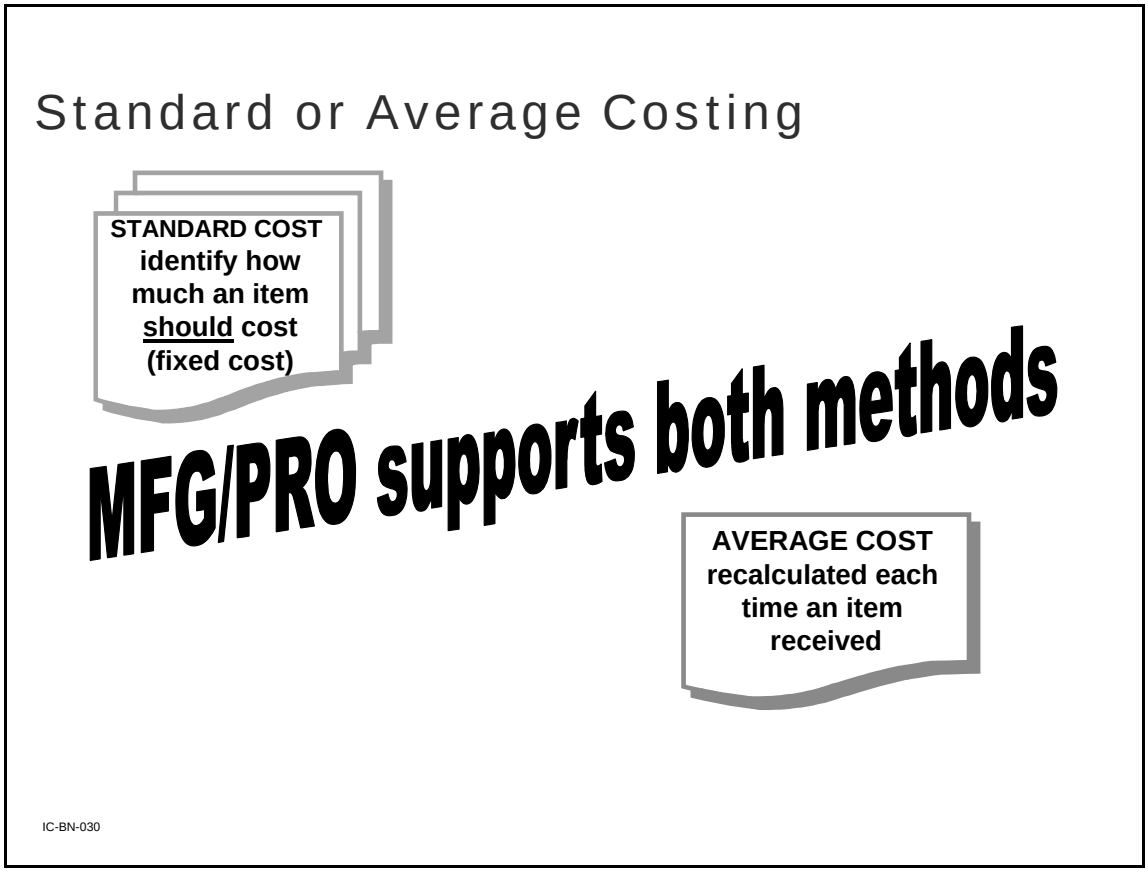
IC-BN-010

Business Considerations



- Costing Method
  - Standard or Average
- Number of Sites and Locations
- Cycle Count or Physical Inventory
- Inspect Received Materials
- Lot and Serial Numbers
- Warehousing
  - Bin Numbers
- Compliance Module
- Backward Exploded Receipts

IC-BN-020



Two Costing Methods

Use either cost set at any site; however, only one cost set per site is designated as the general ledger cost set. MFG/PRO is usually a standard (also called general ledger or GL) cost system, although it can be used as an average cost system.

Standard (GL) Cost Set

Product line GL accounts are oriented to standard cost accounting.

- Values for these accounts default from the System/Account Control Program

All inventory transactions for an item are recorded in the GL at a single cost, independent of price fluctuations. The difference between Standard and Actual is recorded as a variance.

Average Cost Set

Average costs are recalculated each time an item is received.

- Purchase order costs automatically update the current cost for inventory items. The calculation of the new current cost is based on the method selected in the Inventory Control Program
- Use Average Cost Method Maintenance to allocate costs to the Co-Products and By-Products of a base process

Why Consider Two Methods of Costing?

Normally, all inventory transactions for an item are recorded in the general ledger at a single cost, independent of price fluctuations. In general, standard costs are set once a year. Inventory is valued at standard (GL) cost.

Current costs are updated in one of three ways.

1. "Average" calculates a weighted average based on the old current cost for the item.
2. "Last" uses the last purchase order or work order cost for the item.
3. "None" indicates that costs are updated manually.

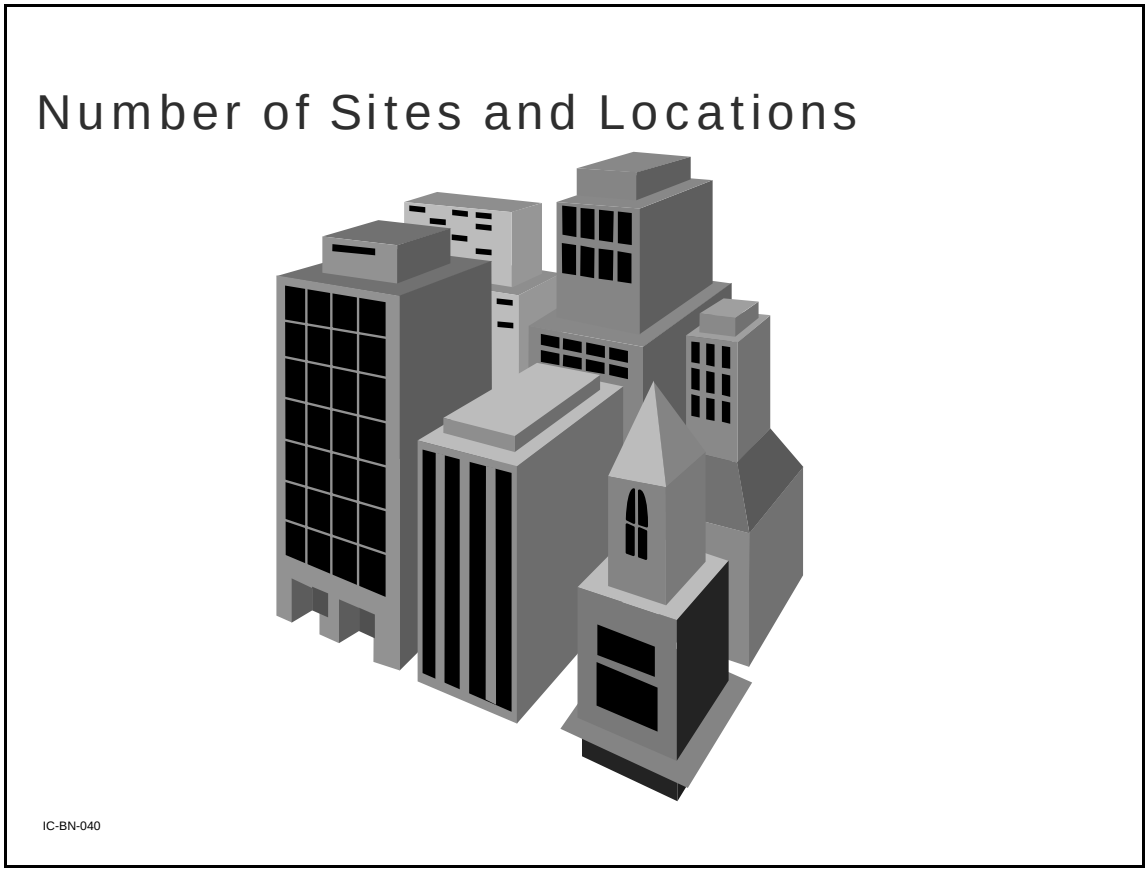
Average Costing Implications

Costs are updated using a simple weighted average calculation. For manufactured items, the labor, subcontract, and burden costs are updated when work-order receipt transactions are made and at Accounting Close.

Average Cost Calculation

$$\frac{(\text{Quantity on Hand} \times \text{Current Cost}) + (\text{New Quantity} \times \text{New Cost})}{(\text{Quantity on Hand} + \text{New Quantity})}$$

Important Because of the way average costs are calculated upon receipt, timing and accuracy of transactions are critical.



Number of Sites and Locations

Sites and Locations Allow You To

Categorize locations by type. When an item is received or transferred, the system verifies that the type matches the location type associated with the item (such as VAT, FREEZER).

Make sure items with special storage requirements, such as temperature or humidity, are stored in acceptable areas.

Why Consider Number of Sites and Locations?

Sites are areas where inventory is manufactured or stored (normally entire physical production facilities). This is the default site for the item.

- Default location for an item is specified in Item Inventory Data Maintenance

Setup Implications

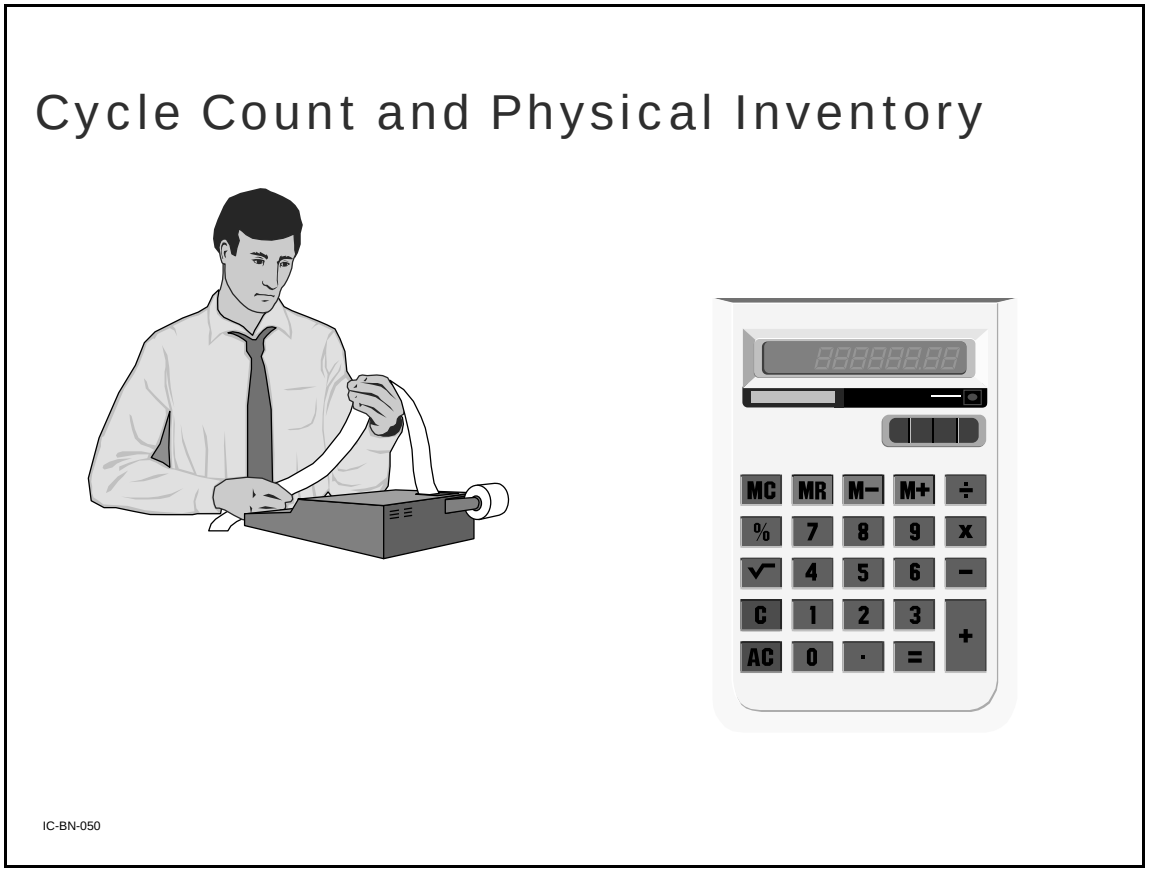
1. Sites are used for planning, reporting, and costing.

   For each site the system must have a cost set, which needs to be maintained. Therefore, keep sites to a minimum.

2. Locations are where inventory is physically stored (for example, bins, floor space, vats, docks).

   Allocations of items are made according to the Inventory Control Program and the inventory status of the locations.

   The larger the number of locations, the more transactions are necessary to control inventory.



Cycle Count and Physical Inventory

Cycle Count and Physical Inventory Allow You To

- Count inventory by site, location, item, lot number and serial number
- Update actual inventory balances

Only inventory can be counted. MFG/PRO does not have inventory functions to count items in work-in-process (WIP)

The value of WIP may be audited using

- Work Order Status Report
- Work Order Cost Report
- Work Order WIP Cost Report

Why Consider Cycle Count and Physical Inventory?

Cycle Count

Frequency is determined by item's ABC Class. Cycle Count Worksheet Print determines how to manage the count.

Cycle counting lets you count select items on an on-going basis, focusing attention on items that are more likely to have errors.

Physical Inventory

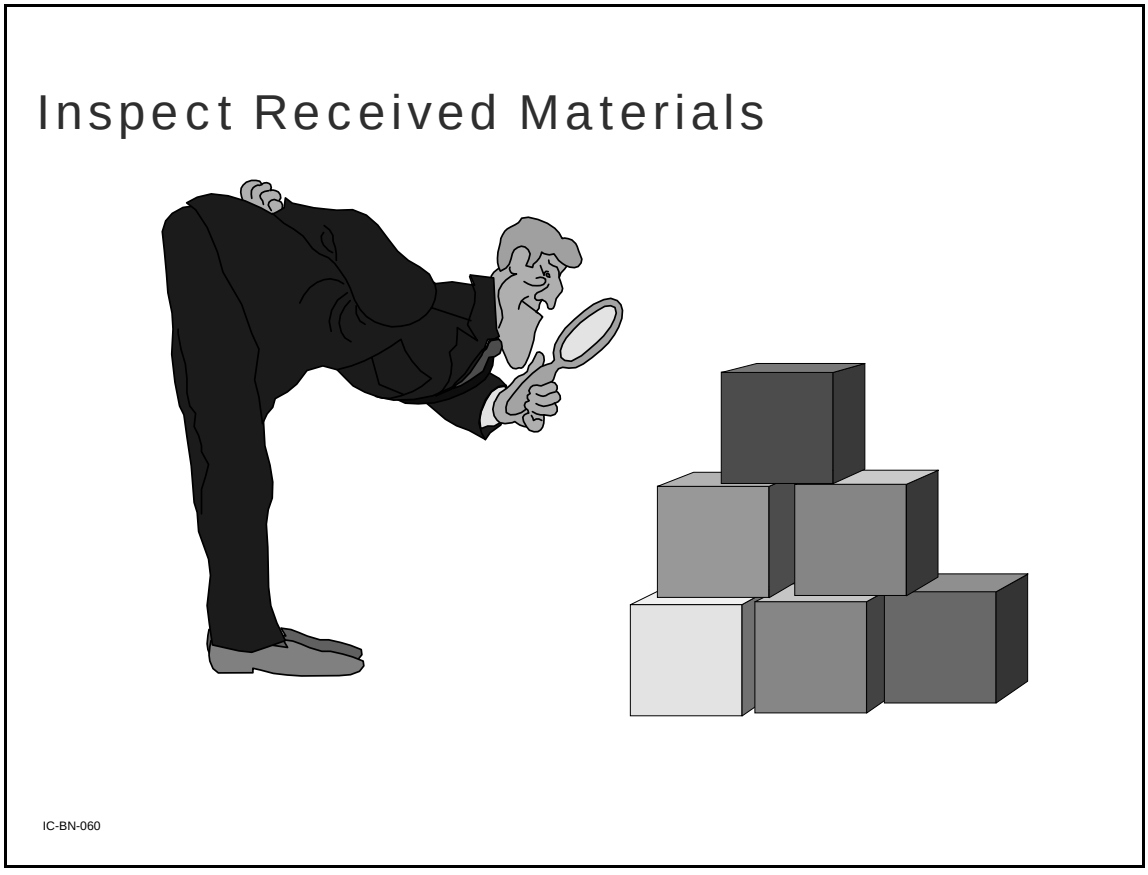
Use physical inventory to conduct a count of items and products on hand. Counts are manually recorded with inventory tags. Tag counts are entered to update live inventory balances. Physical inventory lets you count everything once a year (perpetual).

Setup Implications

Proper procedures in the physical control of inventory are necessary for accurate materials planning. If the balances on hand are not correct, items may be ordered before they are needed or may not be ordered when they are needed.

Cycle counts are preferable because they allow timely detection and correction of errors and are often more accurate than physical inventory counting.

Physical inventory usually allows no time to resolve problems associated with an incorrect balance.



Incoming Inspection

Inspecting Received Materials Allows You To

Specify the location to which items that require inspection are automatically routed upon receipt. Once inspected, materials are transferred to their appropriate sites/locations. Inspection required is specified by item in Item Planning Maintenance or Item-Site Planning Maintenance.

Why Consider Inspecting Received Materials?

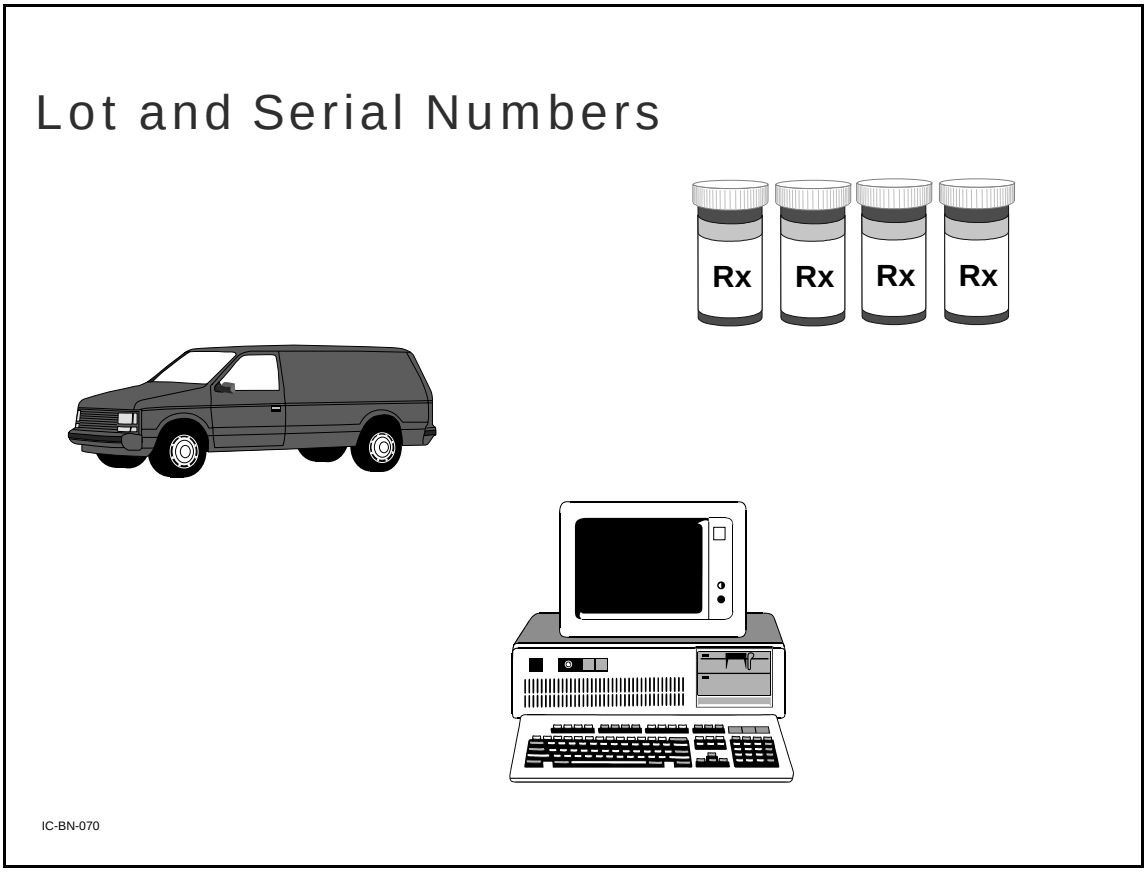
Inspection lead time uses the Shop Calendar during the calculation process.

- If Inspect = Yes, items are received to the default inspection location in the Purchasing Control Program, which is used to calculate need and due dates
- If Inspect = No, the receiving location defaults to the item master location and the need date is set to the due date

Setup Implications

Inspection lead time is calculated only if the item has Inspect set to Yes in Item Planning Maintenance or Item-Site Planning Maintenance.

Note Quality Order Maintenance may be used to record the results of incoming inspections



Lot and Serial Numbers

Lot and Serial Numbers Allow You To

Track items through the system as items enter inventory and are worked on. One tracking method is to assign a lot and serial number to the item and then require the lot and serial number each time the item is moved or processed.

Why Consider Lot/Serial Numbers?

In certain industries, lot traceability is required by the government for health and safety reasons. Others use it for quality control and defect tracking.

Because each use of an item is tracked in the programs on the Transaction History Menu, it is easy to see when it was received, what happened to it, and who purchased it.

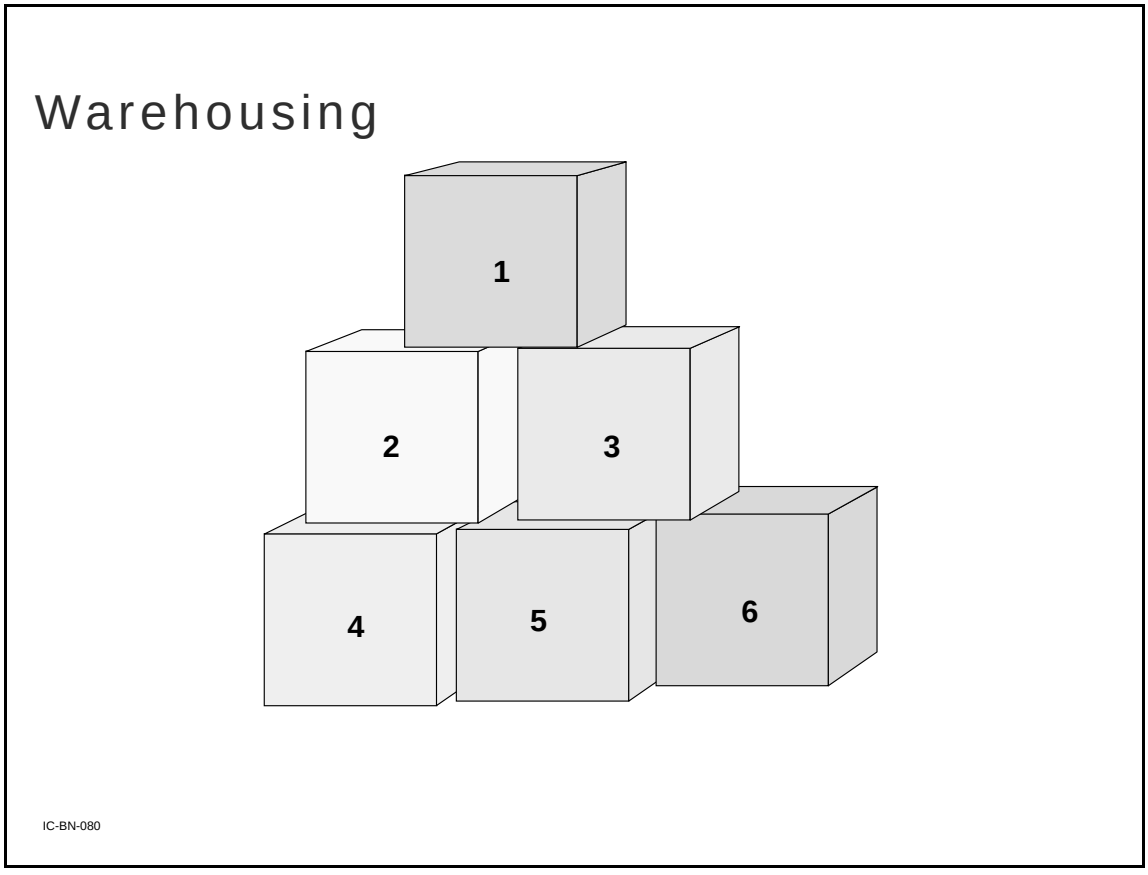
Setup Implications

With lot control, 10 boxes of ink cartridges bought from one supplier can be distinct from 15 boxes from a second supplier, both in inventory and in production.

Lot group in Item Inventory Data Maintenance determines the format used when assigning automatic lot numbers.

1. If left blank and you are assigning automatic lot numbers with Auto Lot Numbers = Yes
   a. Work orders use the work order ID as the lot number, and
   b. Purchase orders are not assigned lot numbers.
2. If Allocate Single Lot = Yes, the picking logic must allocate these items from a single lot, ignoring smaller lots that could partially fill the allocation.

Important Lot and serial numbers may significantly increase all transaction activity associated with an item.



Warehouse Management Systems

Warehouse Management Systems Allow You To

Process import transactions from the warehouse system. The warehouse system creates import transactions that send all inventory receipts, shipments and issues, adjustments, and dispositions processed in the warehouse to MFG/PRO.

Why Consider Warehousing?

The warehousing interface treats your warehouse as a satellite storage area within an MFG/PRO site.

You can transfer data between an external warehouse and MFG/PRO. You can also create various export transactions that extract information on items, customers, suppliers, and orders of all kinds for exportation to the externally controlled warehouse.

Setup Implications

The warehouse is considered an extension of the MFG/PRO site with MFG/PRO:

- Managing its supply and demand orders
- Recording its summary inventory balances
- Sending it item, trading partner, and order information

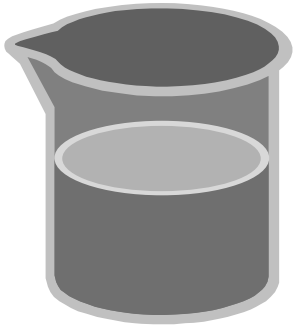
In turn, the warehouse system sends most of its inventory transactions back to MFG/PRO.

Customized programs may be needed to accomplish an interface with some third-party warehouse packages.

Compliance Module

Inventory Management and
Transaction Management

- Site Security
- Batch Control
- Lot Control
- Work Order Control
- Controlled Substance



IC-BN-090

Compliance

Compliance Allows You To

Control site security and provide batch control, lot control, work order control, and controlled substance fields.

Why Consider Compliance?

Site Security

Integrate user maintenance and security with inventory transactions at the site level. Only authorized individual and group users can process transactions for secured sites.

Batch Control

Assign batch numbers to work orders for traceability and reporting. Enter batch numbers as you create work orders or add them to existing work orders.

Lot Control

- Provide control enforcement of unique lot numbers
- Define lot groups for assigning lot numbers
- Update inventory attributes for multiple lots
- Restrict receipts to a single lot
- Generate reports with lot numbers as an index
- Enter supplier lot numbers and manage expired inventory
- Work with number range management

Multi-lot Inventory

Change assay percentage, grade, status, and expiration date of inventory items based on lot and serial numbers.

Work Order Control

Restrict component items issued to work orders unless they are on the bill of material (BOM) or they are valid substitute items. There is a similar control for receipts of joint product items.

Inventory Attributes

Enter inventory attributes information on work orders to increase the control and tracking of material as it progresses through manufacturing into inventory.

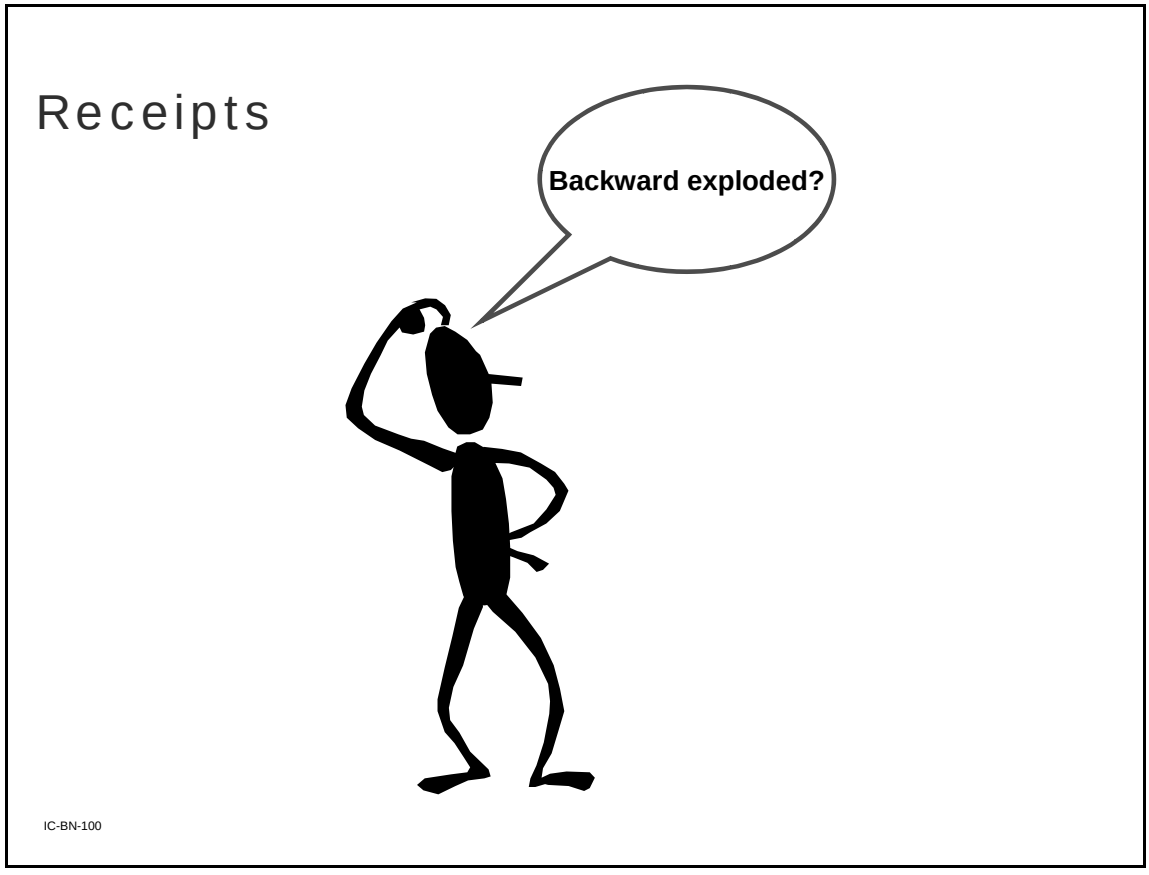
- Use batch and other work order processes to meet business requirements
- Assign default inventory attributes and change existing attributes by:
  - Assay percentage, grade, expiration date, inventory status

Controlled Substances

- Maintain a list of regulatory agencies
- Link a regulatory or control number to an address code or a site
- Associate a regulatory or control number to an inventory item
- Record GL and individual license information for exports

Setup Implications

Each feature can be used in conjunction with or independent of the other features.



Receipts

- Backward exploded receipts are often used in kitting or simple assembly operations
  - No need to set up a work order
- Recording the receipt of the finished item indicates that you used a certain group of materials

Review

- Processes and Procedures
- Reporting Requirements
- Customer Expectations
- Product Configuration

IC-BN-110

Summary

- ✓ Introduction to Inventory Control
- ✓ Business Considerations
- • Set up Inventory Control
- • Process Inventory in MFG/PRO

IC-BN-120

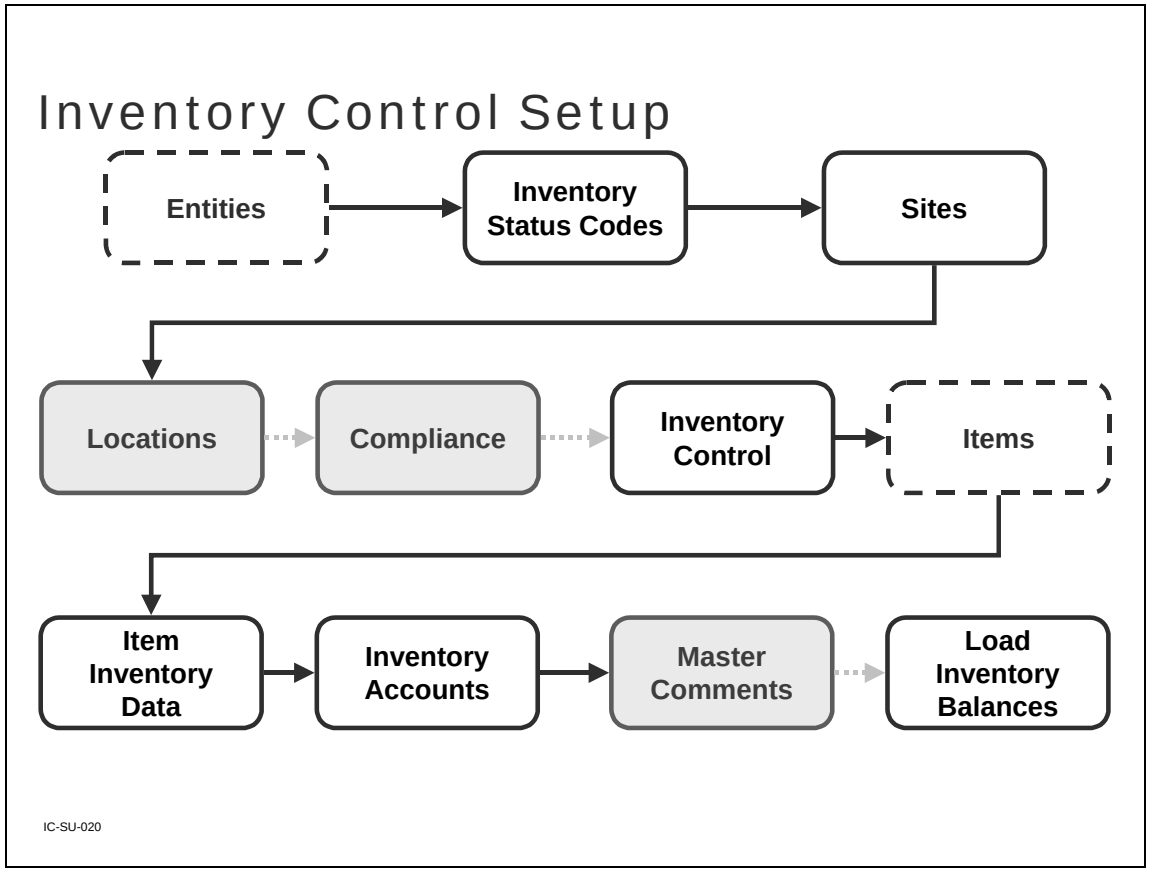
CHAPTER 3

Set Up Inventory Control

Set up Inventory Control

- ✓ Identify some key business considerations before setting up Inventory Control in MFG/PRO
- ✓ Set up Inventory Control in MFG/PRO
- • Process Inventory in MFG/PRO

IC-SU-010



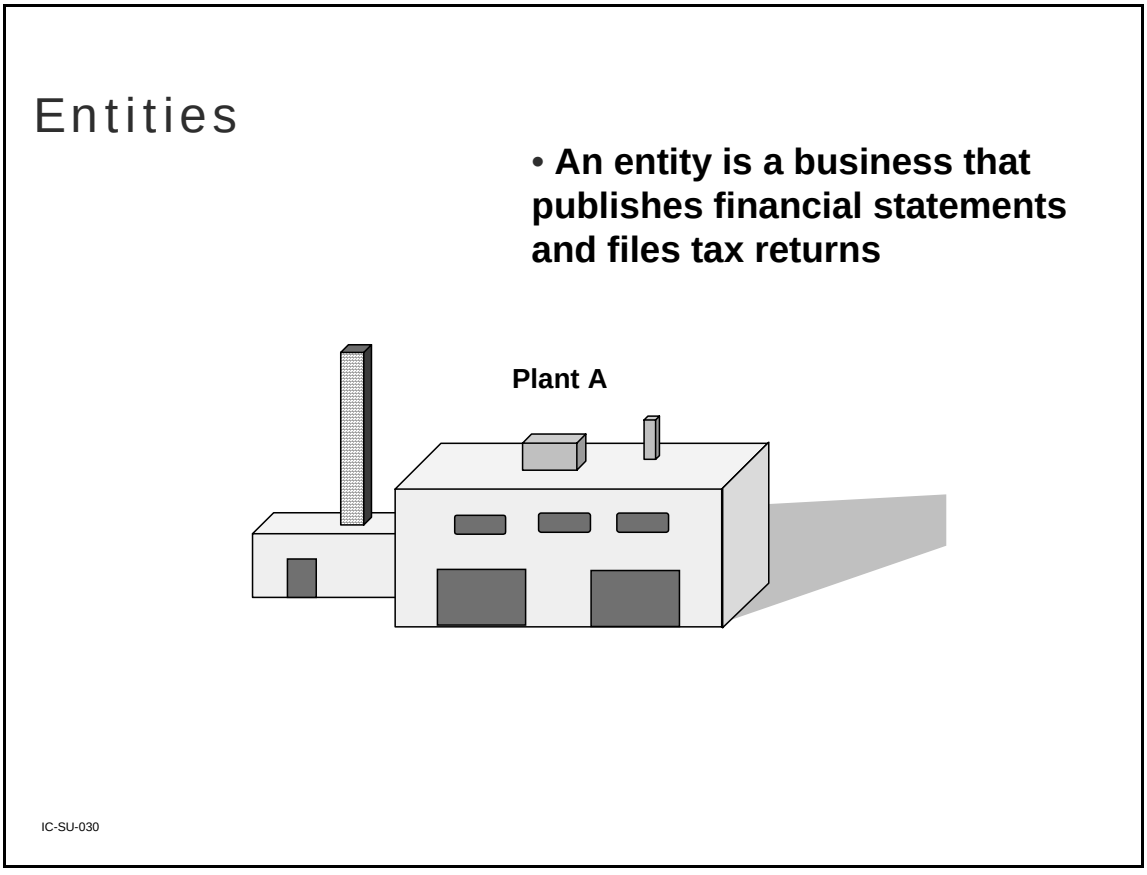
Inventory Control Setup

A suggested setup sequence for Inventory Control is illustrated above. This sequence is based on information that flows from one program to another and prerequisites. Reading the illustration:

Boxes with solid lines are focused on in this course

Shaded boxes reflect optional steps

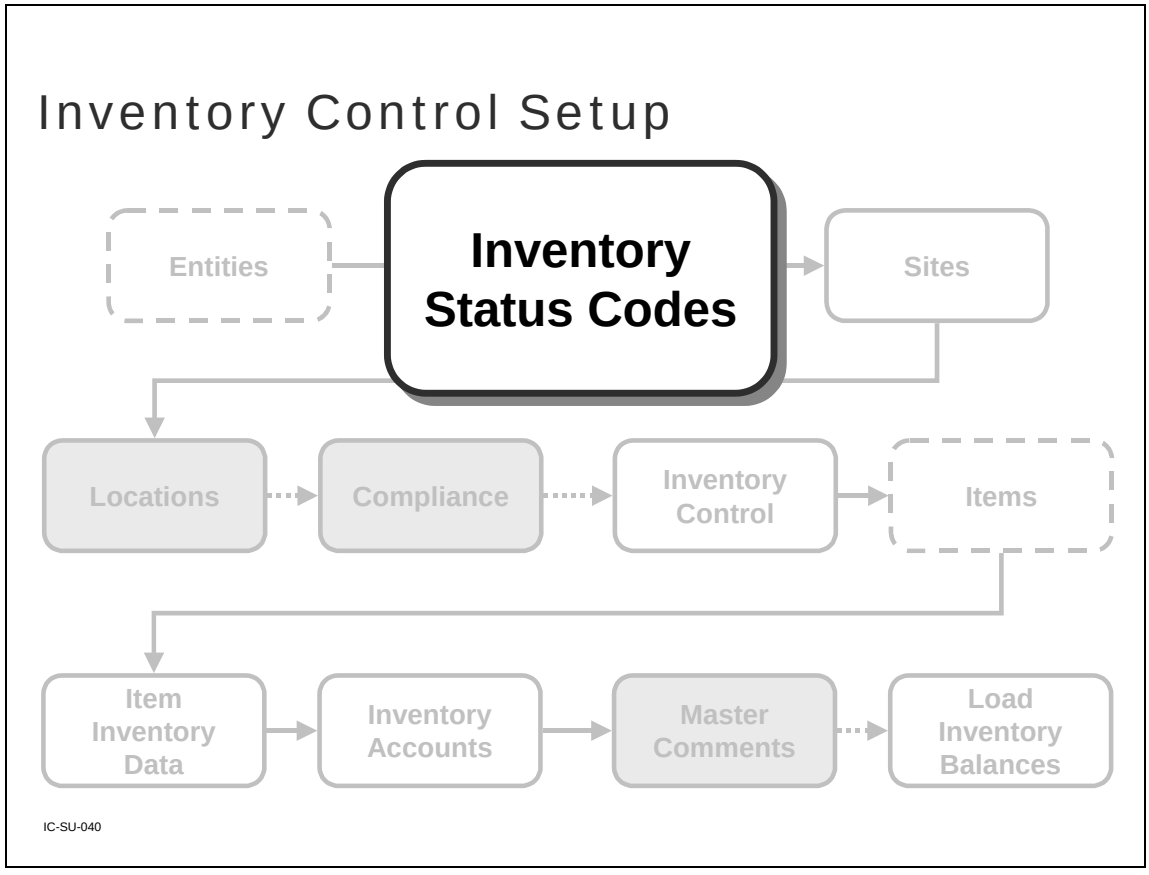
Boxes with dotted lines reflect areas covered at length in another course



Entities

Entities allow you to generate separate financial statements (balance sheet, income statement).

You must specify one entity as the primary entity. This is the GL entity when you first log onto the system.



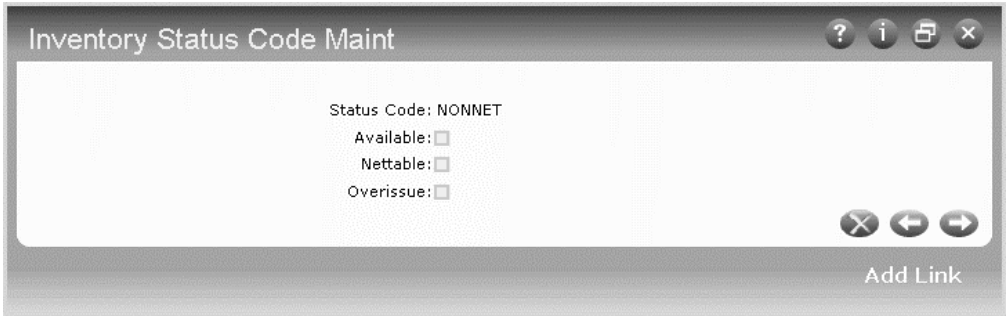
Inventory Status Codes

The system uses inventory status codes to determine if the inventory balance at a site or location is:

- Available for sales order and work order allocations
  - Allocations are used to:

    Reserve inventory and assist in picking inventory to be shipped or issued
- Nettable for MRP calculations
- Issued even if the site or location has a zero or negative inventory balance
- Not available for particular kinds of inventory
  - For example, material located in scrap locations should not be used for sales order issues

Inventory Status Code Maintenance



IC-SU-050

Inventory Status Code Maintenance

Use Inventory Status Code Maintenance to create and modify inventory status codes.

- Use Site Maintenance to assign inventory status codes to sites
- Assign inventory status codes to locations using Location Maintenance
- Optionally assign default inventory status codes for purchase order or work order receipts to individual items using one of the following:

  Item Master Maintenance

  Item Inventory Data Maintenance

  Item-Site Inventory Data Maintenance

You must associate an inventory status code with every site or location you set up.

At least one inventory status code must be defined before you can enter site and item combinations. Set up an initial blank inventory status code that is available and nettable in Inventory Status Code Maintenance. Then set up other inventory status codes as needed.

Because items are required to have an inventory status code, it is common to set up a status code of blank as a default, with items being available and nettable, and no restricted transactions.

However, while this is a common practice, it is not considered a good idea if you need to print reports. When printing reports, blank does not work in the criteria. It is better to use a numeric coding scheme for all codes because of report criteria.

Status Code

This code identifies the status of inventory:

- In a specific site and location
- With a specific lot/serial number (if lot/serial controlled), and lot reference

Inventory status codes can restrict particular transactions at specific locations. For example, you can restrict issues from an inspection location.

Available

This field indicates whether inventory balances with this status code are available for allocations to sales orders and work orders. This does not affect the available-to-promise calculations.

If this field = Yes, 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 flagged Available Yes. Any locations flagged Available No 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

This field 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 flagged Nettable Yes. Locations flagged Nettable No 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 be set to Nettable = No. 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 because 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

This field indicates whether inventory balances with this status code are allowed to go negative.

If Yes, then inventory may be issued from a location even if that issue results in a negative balance on hand: with 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, set the Overissue flag to No. This stops overissues in all inventory transactions.

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 a No setting.

Why allow overissues?

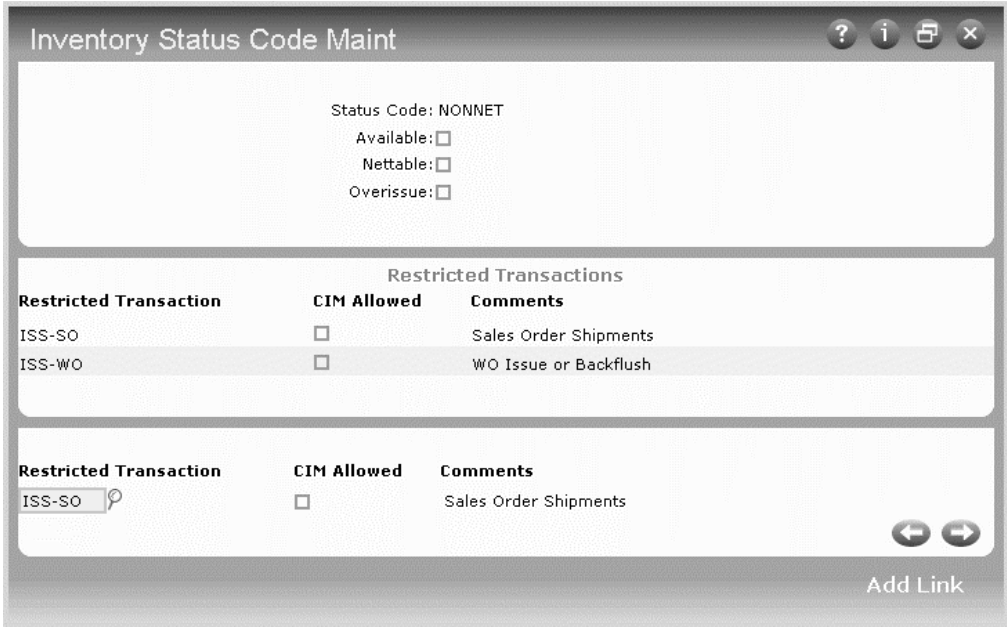
If the inventory is physically available, the operator should be able to record the issue transaction, even if the data entry for inventory receipt is delayed, as often happens when information is batched for data entry.

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.

However in a regulatory environment or where items are lot/serial controlled, you may want to set the Overissue field to No and develop data entry procedures which assure the timely entry of inventory transactions.

Overissue should always be set to No when using Average Costing.

Inventory Status Code Maintenance – Restricted Transactions



IC-SU-060

Restricted Transaction

Enter a 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 work 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 work orders or

shipped to customers. ISS-SO restricts both sales order shipments and RMA issues. Use ISS-RMA to restrict RMA receipts.

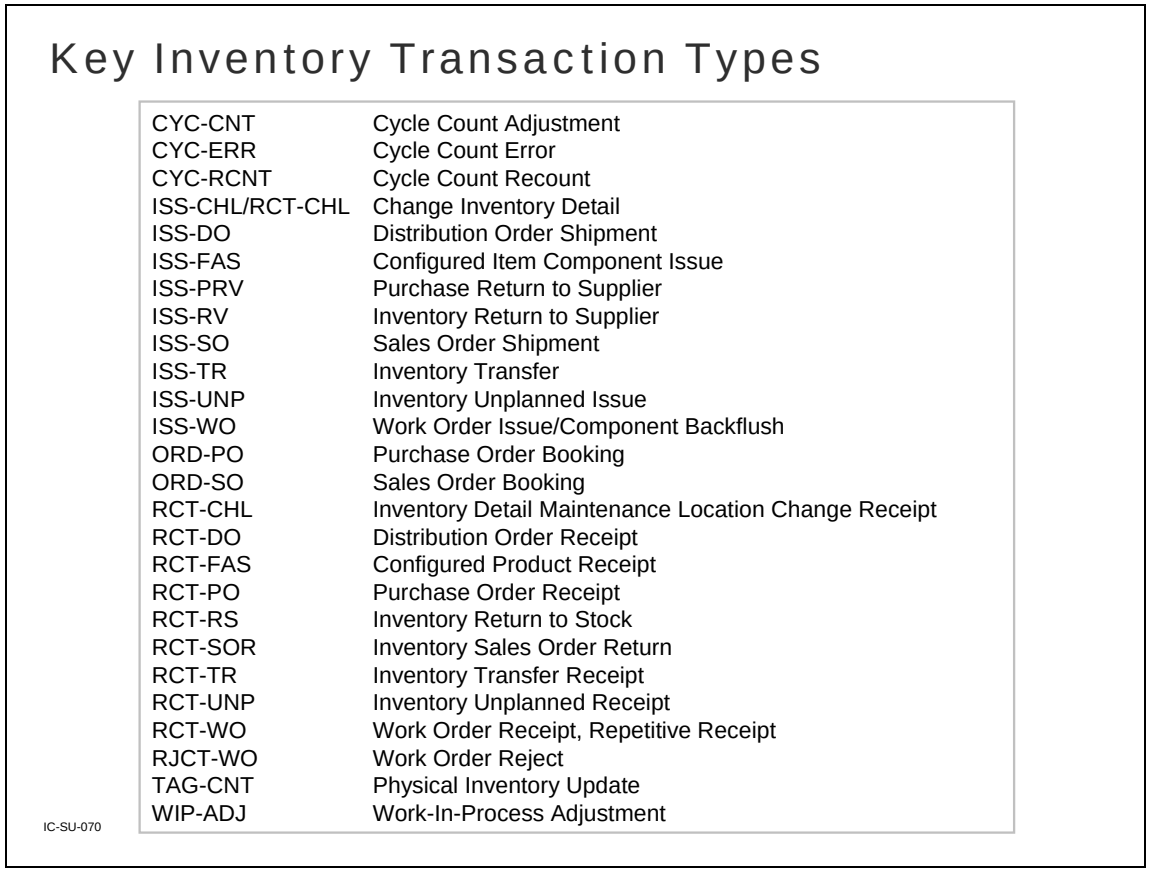
You typically allow ISS-PRV and ISS-TR for items in inspection, since you want to be able to return them to the supplier or transfer them to a different location.

Some transactions are required by the system. You cannot prevent them from occurring, even if you list them as restricted.

A status code of MRB (material review board) means the material put in a location with this status code is being reviewed for its fitness for use. Set Available (for allocations) to No and Nettable (for MRP) to No.

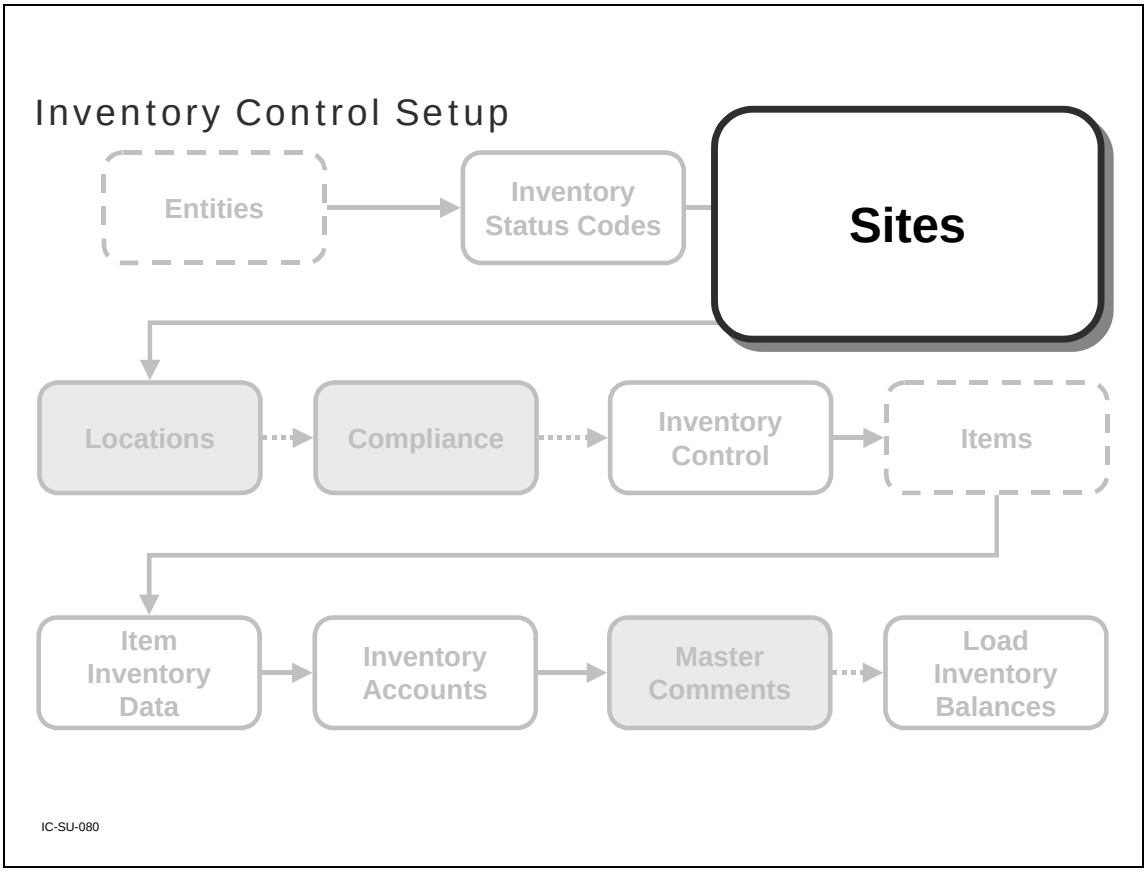
If material is not fit for use, you do not want to book an order for it, ship it or issue it to a work order, so the restricted transactions would be:

- ORD-SO Sales Order Booking
- ISS-SO Sales Order Shipments
- ISS-WO Work Order Issue or Backflush



Key Inventory Transaction Types

This partial list of transaction types contains the types usually associated with inventory movement.



Sites

The site code identifies a specific warehouse or group of buildings at the same physical location.

A site is a manufacturing facility, a warehouse, or some combination. All functions are processed by site, including:

- Inventory
- Forecasts and production schedules
- Production methods and costs
- Material and capacity plans
- Reports

Most functions work within one site. For example, manufacturing orders expect to find all their components at the same site, and MRP or DRP calculates requirements one site at a time.

A few functions deal with multiple sites. For example:

- Multi-site purchase or sales orders, distribution orders, and distributed inventory inquiries
- Site codes must be unique across all databases
- At each site, you can store inventory at multiple locations
  - A location defines an area, such as a shelf, bin, or tank within a site

Because inventory locations are a subset of site, the same location codes can be used for different sites.

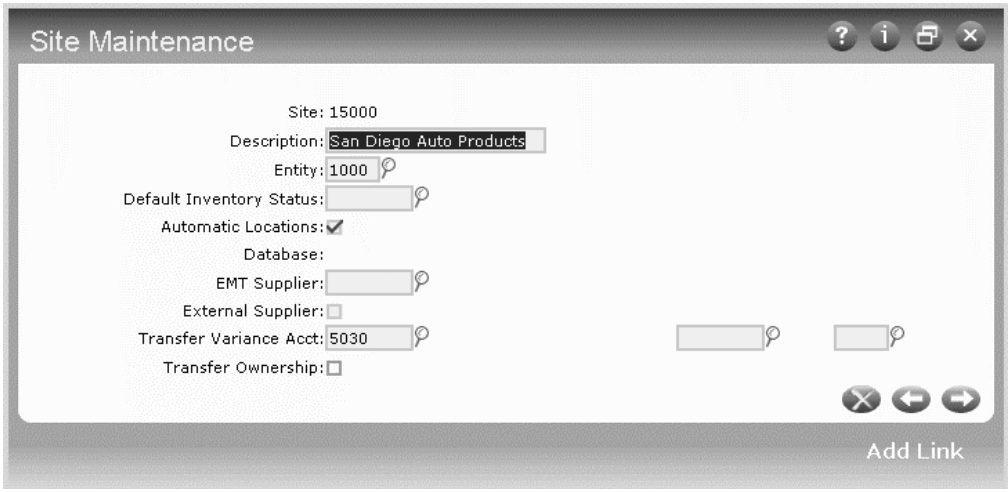
By setting the Automatic Locations field in Site Maintenance to Yes, you can have MFG/PRO create locations automatically as it processes receipts.

- You can define them manually in Location Maintenance
- Define locations whenever you reserve them for particular items

Assign each site to a GL entity for financial reporting. You can have more than one site for each entity, and all locations within a site belong to the same entity.

Important Many functions in MFG/PRO require the Site Code to equal the Company Address Code.

Site Maintenance



IC-SU-090

Site Maintenance

Entity

This field indicates the GL entity tracking the financial aspects of activities at this site.

All inventory control and planning information in MFG/PRO is maintained by site, including:

- Inventory availability
- Manufacturing methods and costs
- Sales
- Purchases
- Manufacturing plans and orders
- Forecasts

Each site is associated with a specific GL, allowing complete financial results to be maintained and monitored by site (or by groups of sites).

Activity for multiple companies (entities) may be processed within a single MFG/PRO database. When GL transactions are created, they post to a specific:

- Entity
- Account
- Sub-account
- Cost center
- Project

The entity to use on a transaction is determined based on site. Any transaction may reference more than one site, and possibly more than one entity. Intercompany transfer transactions are automatically created when more than one entity is involved.

For example, you have two sites (site 1000 and 2000) each at different companies (entity 1 and entity 2). If you have a work order at site 1000 and issue inventory from site 1000 to that work order, the resulting GL transaction only affects entity 1 (crediting inventory and debiting WIP).

What happens if you issue inventory from site 2000 to the work order at site 1000? The system still has to credit inventory (at entity 2) and debit WIP (at entity 1), but now an intercompany activity has taken place. To balance this transaction for each entity, the system debits the intercompany account at entity 2 and credits the intercompany account at entity 1. In this way, a complete set of financial reports can be created for each entity.

Default Inventory Status Code

The inventory status code associated with a site sets the default for all locations within it.

- When inventory is received in a location, it takes on the inventory status of the location

- Use Inventory Detail Maintenance to change the inventory status code for an individual item once it is in a location

Automatic Locations

You can control whether new inventory locations can be added automatically during an inventory transaction.

- If this flag = No, then new locations must be set up using Location Maintenance

Automatically adding locations is handy, but can get you into trouble because of typographical errors, especially if you allow overissues. If you receive 100 units of an item into location STOCK, the system adds a new location record for STOCK.

If you receive an additional 50 units of the same item but accidentally enter the location STOKC, the system displays a warning “Location does not exist” and continues by adding a new location for STOKC.

When overissues are permitted, if you later issue 150 units from STOCK, you will end up with a quantity of -50 in STOCK and +50 in STOKC.

If you have few locations, always set Automatic Locations to No.

Automatic locations should only be set to Yes if you have complex location identification schemes that have so many combinations they just cannot be predefined. Even then you may consider setting Automatic Locations to No and predefining a few locations. Then use the lot reference field to specify the sub-location, such as the:

- Row
- Shelf
- Bin
- Pallet
- Spool

EMT Supplier

This field in Site Maintenance is used in the EMT order processing environment and specifies the default supplier for this site.

If left blank, memo items will be created as non-EMT memo items. When a valid supplier is specified, memo items will be created as EMT memo items.

The default supplier must exist in Supplier Maintenance. The default handler will not accept a blank entry in this field until it has checked the last element in the sequence and found no valid default supplier.

An enhancement to EMT supports the handling of orders across multiple levels within an organization. This functionality is called multi-level EMT.

External Supplier

When you are using the direct allocation feature of EMT, specify whether this site corresponds to a secondary business unit (SBU) in an external, connected database.

With direct allocation, the primary business unit (PBU) can make a special, temporary allocation of an EMT sales order or material order line item in the SBU’s database by changing the line-item site to one that corresponds to the SBU’s connected database. When the SBU imports the PBU’s EMT purchase order to create a secondary sales order, the system automatically converts this temporary allocation to a general allocation.

If this field = No, it indicates that this is an internal supply site.

If this field = Yes, this site corresponds to an SBU in the connected external database specified in the Database field. The PBU can directly allocate the SBU's inventory.

Transfer Variance Account

This is the GL account code normally used to track cost variances on inventory transfers between two sites.

Inventory activity typically occurs at the site where the order is processed, known as the primary site.

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 the item, a variance occurs.

This variance is posted to the Transfer Variance account. 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.

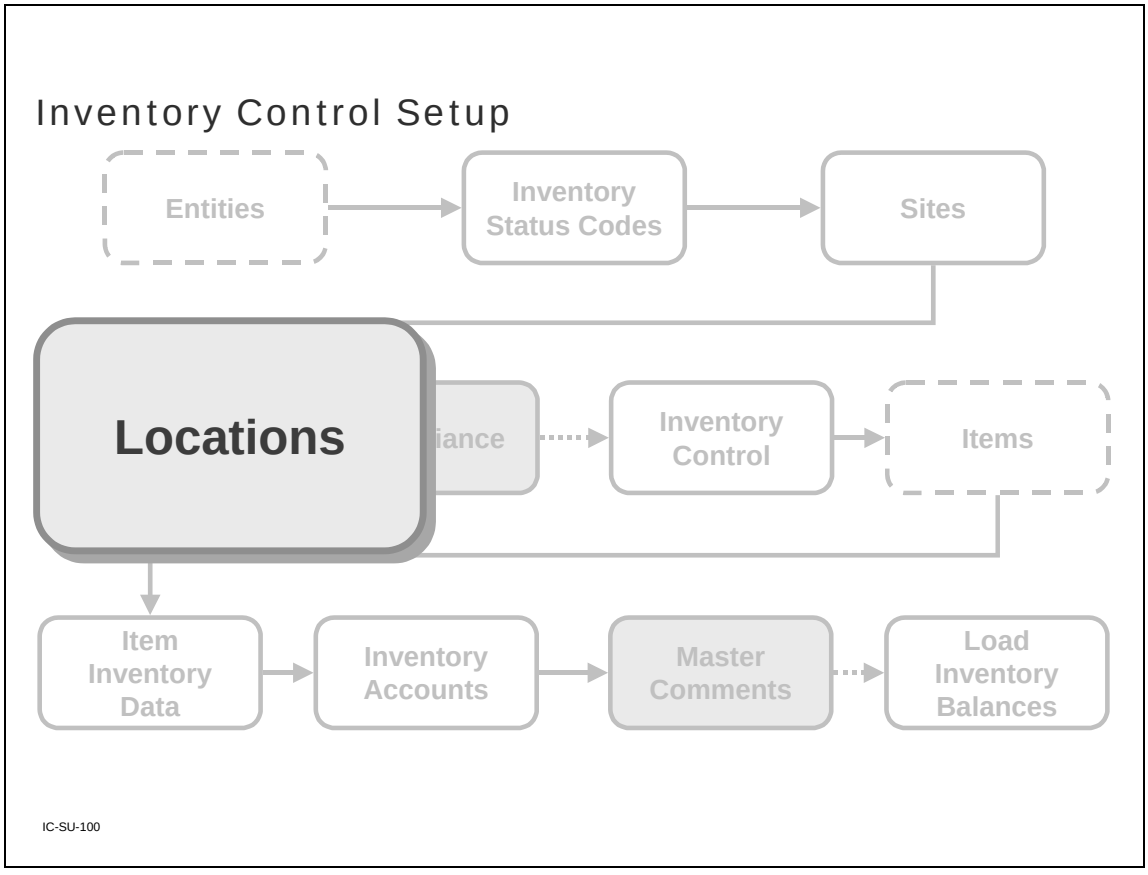
Account code is one component of an account number defined in GL setup functions. Other components of an account number are:

- Sub-account
- Cost center
- Project

Project codes are not available for all GL transactions. If Verify GL Accounts = Yes in the System/Account Control Program, each component you enter must be valid on its own and in combination with other account number components.

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

Important You can enter an allocation code, which represents a set of accounts, in any account field. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Allocation Code Maintenance.

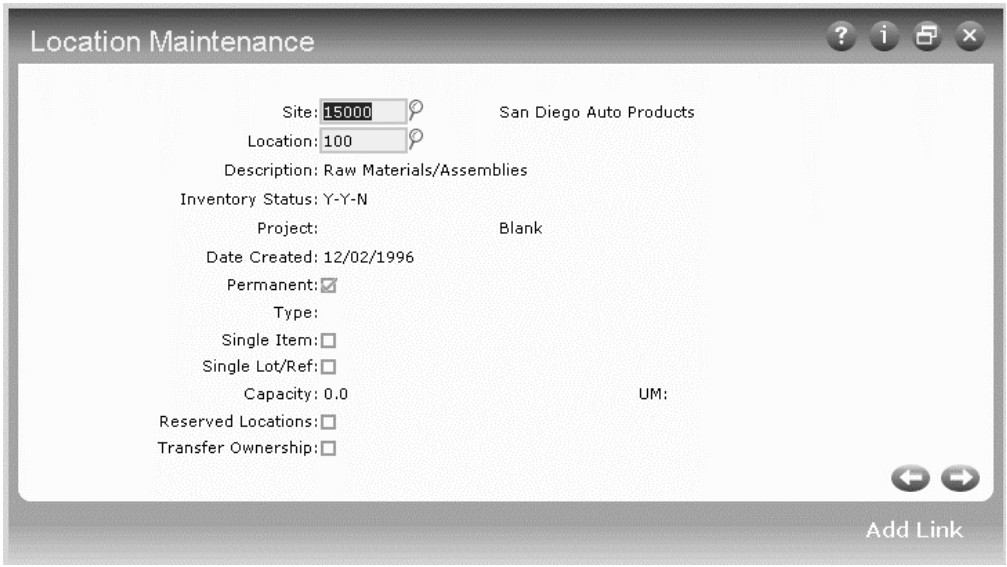


Locations

Locations identify areas of a site where inventory is stored. A location defines an area, such as a shelf, bin, or tank within a site. Each location's parameters identify what can be stored there and how that inventory can be used. The same location codes can be used for different sites.

Every inventory transaction must have a site and location. Both default from the Item Master Maintenance.

Location Maintenance



IC-SU-110

Location Maintenance

Inventory Status

The usual status of inventory held in this location.

See in this training guide: *Inventory Status Code Maintenance* on page 54

Project

Optionally, specify a GL project code to associate with this location. When Verify GL Accounts = Yes in the System/Account Control Program, this field is validated against GL project codes maintained in Project Code Maintenance.

If you do not use the Project Realization Management (PRM) module, this field is for reference only.

When you do use PRM, this field identifies a PRM project location. For a project location, the GL project code in this field must have a corresponding PRM project with the same identifier.

Permanent

If this field = Yes, the location is permanent. It is retained even if the on-hand balance is zero

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.

If this field = No the location is temporary. If you define a location as temporary, the system automatically deletes inventory detail records when the location's balance falls to zero

The use of temporary locations helps to keep inventory reports at a reasonable length, particularly when there are lot and serial controlled items with zero balances.

Permanent inventory locations may be desirable when items have fixed or designated stocking locations–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.

Type

Locations are categorized by type and each item is assigned to a specific type of location.

When the item is received or transferred, the system verifies that the type of the location that the item is being received into matches the location type associated with the item. If it does not, an error displays and the transaction may not be processed.

The code identifying the type of location is useful for items with special storage requirements, such as temperature or humidity. The location type can flag this and comments describe the exact requirements.

Single Item

Indicates whether more than one item or product may be stored in this location.

Set this flag to Yes to prevent receipt of more than one item number into a location.

This flag is checked for positive receipt, negative issue, and cycle count adjustment transactions. It is not checked when counting tags or updating inventory balances using Physical Inventory.

Single Lot/Ref

Indicates whether more than one lot/ref number of the same item may be stored in this location.

Set this flag to Yes to prevent receipt of more than one lot/serial number into a location.

This flag is checked for positive receipt, negative issue, and cycle count adjustment transactions. It is not checked when counting tags or updating inventory balances using Physical Inventory.

Capacity

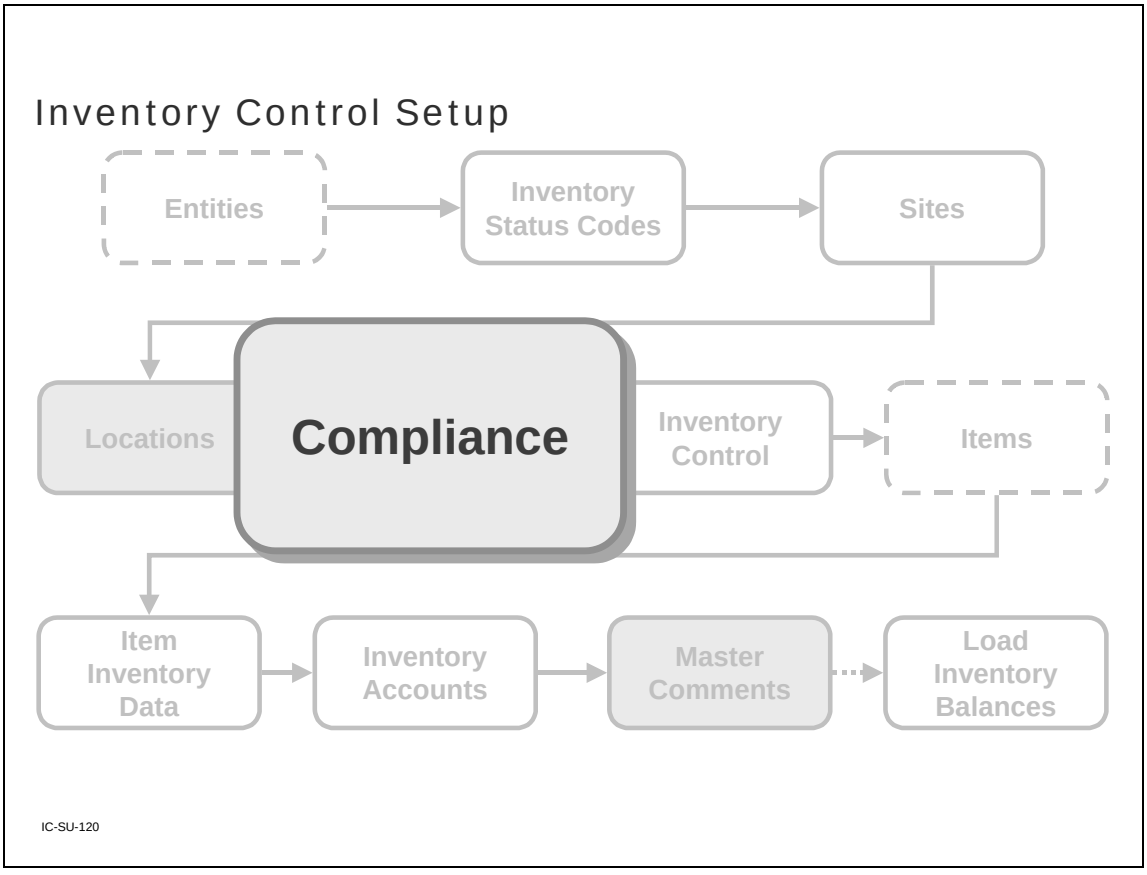
The capacity of an inventory storage location is expressed in terms of the capacity unit of measure.

This field is for reference only, and may appear on some selected reports and inquiries.

Unit of Measure (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.

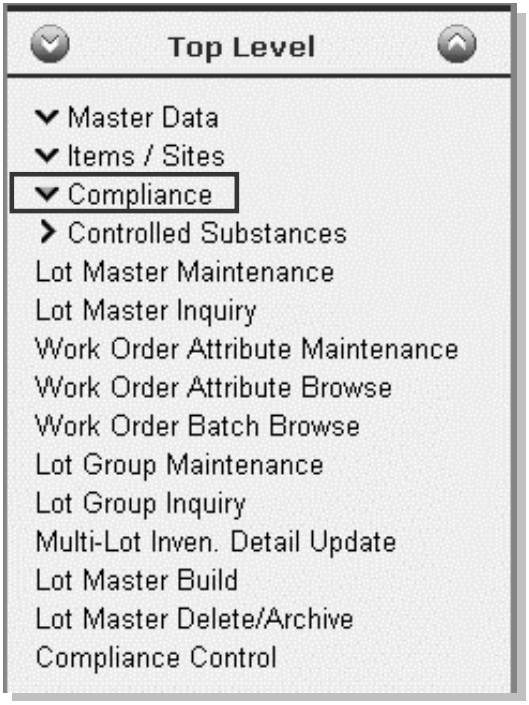


Compliance

If Compliance is used, set up the lot control information before setting up the item numbers.

Compliance affects receipts, issues, and transfers.

Compliance Menu

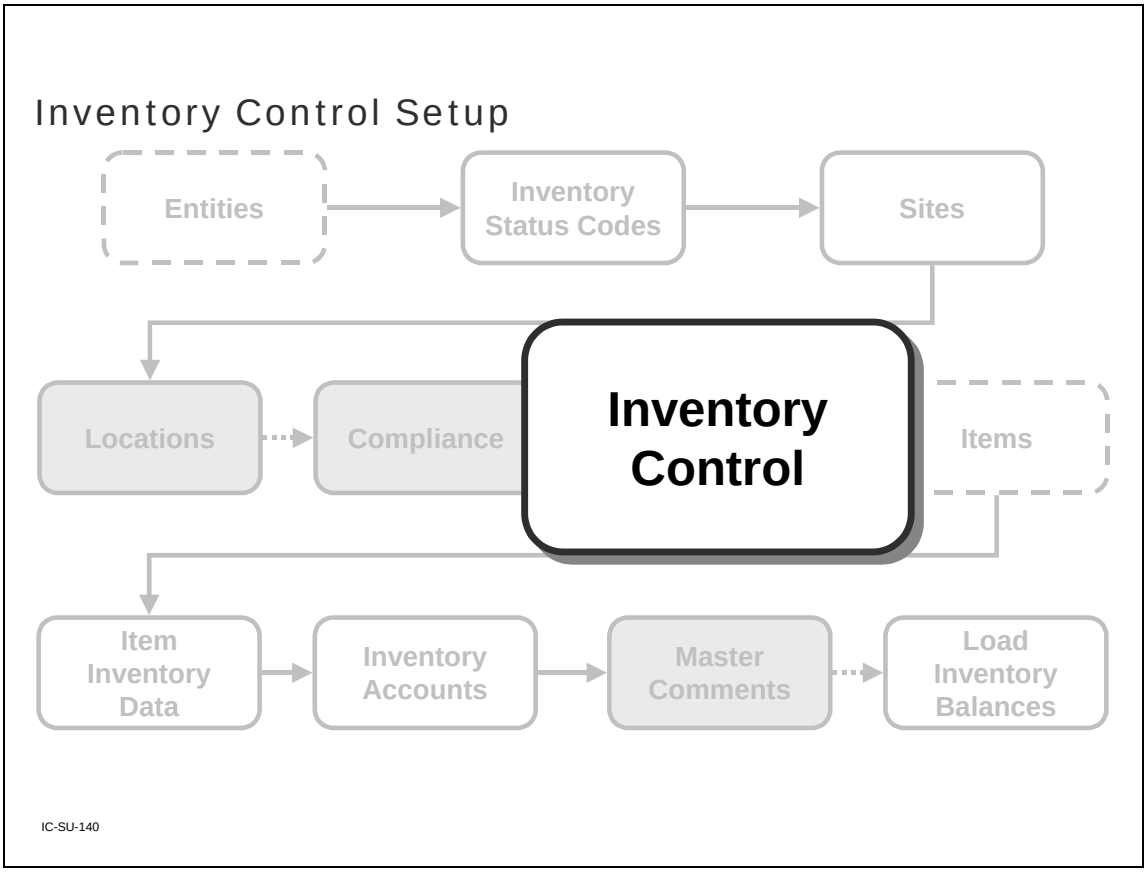


IC-SU-130

Compliance Menu

Use the Compliance module to ensure manufacturing practices comply with government regulations and with international agreements, such as the following:

- Food and Drug Administration (FDA)
  - Current Good Manufacturing Practices
- North American Free Trade Agreement (NAFTA)
- General Agreement on Tariffs and Trade (GATT)



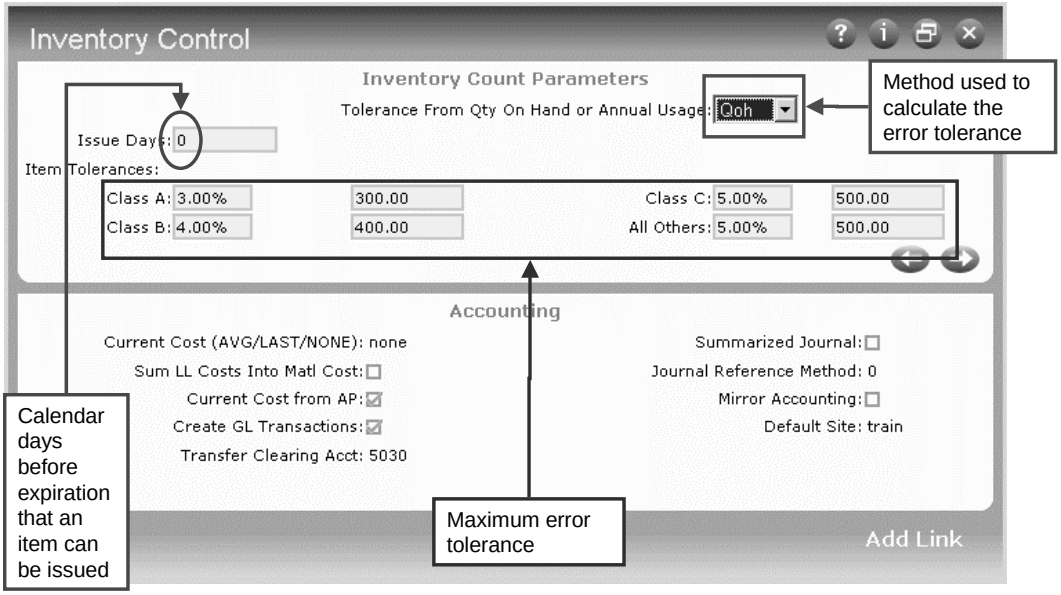
Inventory Control

Use the Inventory Control Program to determine count tolerances, establish accounting procedures, and define picking logic.

Settings in this program enable the system to:

- Identify inventory imbalance
- Update item current cost
- Generate GL transactions
- Prioritize item picking

Inventory Control – Inventory Count Parameters



IC-SU-150

Inventory Control Program

Inventory Count Parameters

Issue Days

The number of calendar days before expiration that an item with limited shelf life can be picked or issued. Shelf life is usually only defined for items which eventually spoil, such as eggs or milk.

Shelf life automatically sets the expiration date for inventory. The system adds the number of days shelf life to the receipt date. This can be changed manually as needed. Inventory which has expired (or will expire within issue days) does not appear on picklists as a quantity to be picked.

Item Tolerances

Tolerances are set up by ABC class. This allows 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.

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 flagged as an error. Both percentage and amount tolerance is checked. The error must be within both tolerances for it to be accepted.

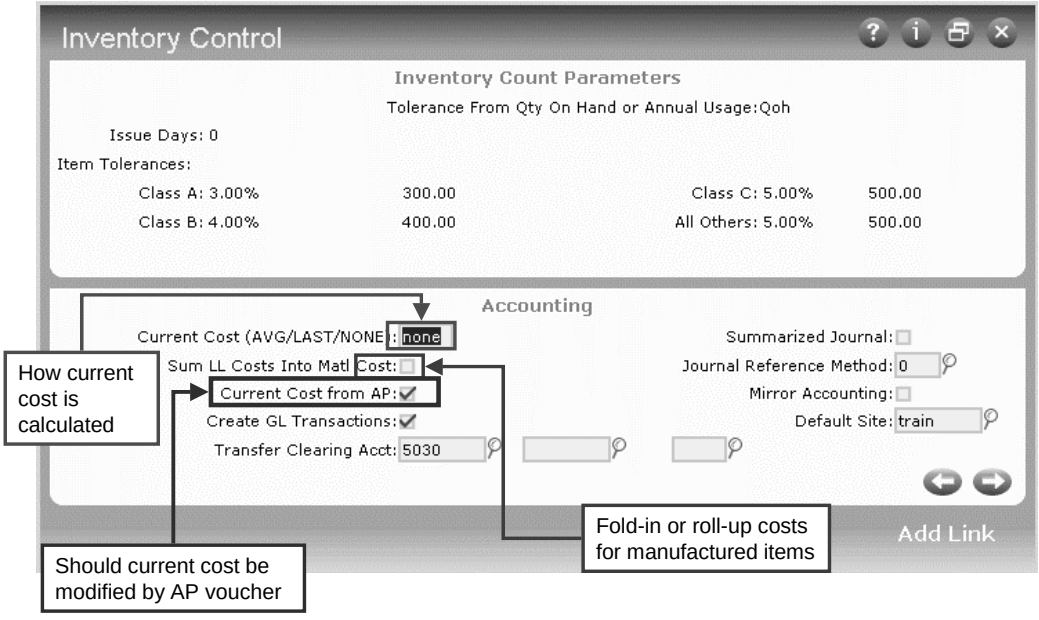
If the tolerance method is:

a [Q]oh, item tolerances are calculated as a percentage of quantity-on-hand.

b [U]sage, item tolerances are calculated as a percentage of annual usage.

Value (dollar) tolerance is always checked.

Inventory Control – Accounting



IC-SU-160

Accounting

Current Cost

Specify the method to use for updating current material, labor, and burden costs.

When you have the Cost Management module Menu 30, 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 you do not use Cost Management, this setting applies to all sites in the system.

Valid values are:

Average (the 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

Sum LL Costs Into Matl Cost

Usually this flag is set to No. It specifies how lower-level costs are posted to Cost of Goods Sold. Usually this field is set to No.

However, in some companies, the material cost for an end item is considered to include all costs associated with purchasing or manufacturing components, as well as any direct material costs. Then this flag is set to Yes.

If this field = No, lower-level costs are added to this-level costs for each cost component and the total posted to Cost of Goods Sold.

For example, the total material cost (this-level plus lower-level) is posted to Cost of Goods–Material, the total labor cost is posted to Cost of Goods–Labor, and so on for Cost of Goods–Burden, Overhead, and Subcontract.

If this field = Yes, all lower-level costs are summarized into Cost of Goods–Material. Only this-level costs are posted to Cost of Goods–Labor, Burden, Overhead, and Subcontract.

This flag does not affect the way costs are calculated or stored in cost sets.

Current Cost from AP

This field indicates whether current cost should be affected by AP Rate Variances calculated in Accounts Payable.

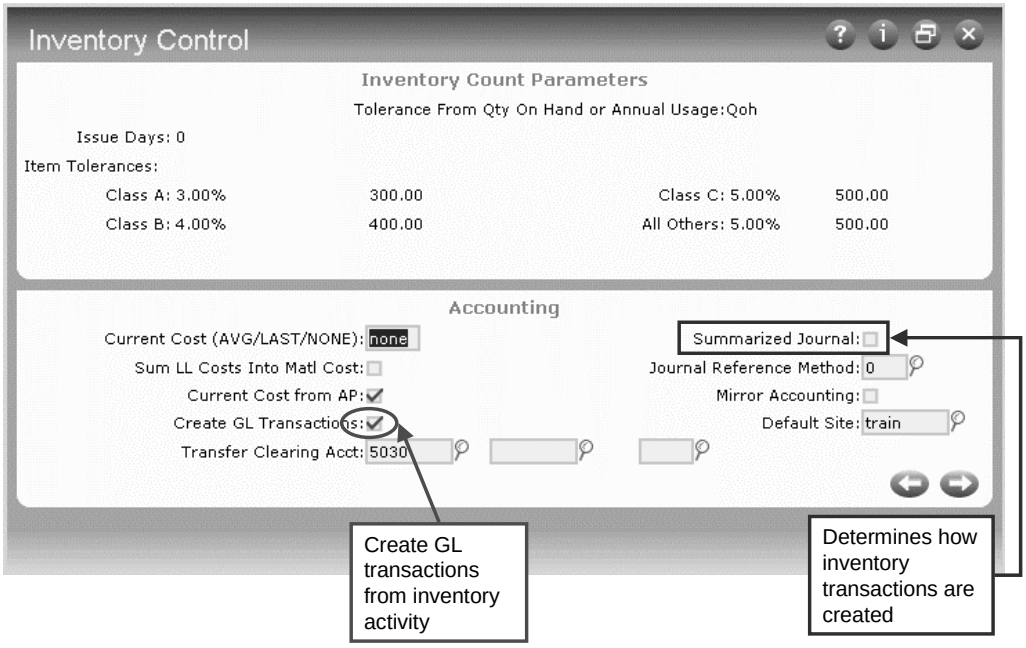
If this field = Yes, current material cost is updated to reflect AP Rate Variances. These are variances between the supplier invoice cost and the purchase order cost.

If this field = No, these price variances are not reflected in current cost.

Current cost may be maintained automatically by the system. This reflects the actual cost incurred and can be compared to the GL (standard) cost.

Current cost is updated as Last or Average. It may or may not be affected by actual voucher costs for purchased items.

Inventory Control – Accounting (Continued)



IC-SU-170

Accounting Procedures

The accounting field controls how the general ledger is updated when inventory transactions occur.

Create GL Transactions

This field indicates if general ledger (GL) transactions are to be created by inventory activities.

If this flag is set to Yes, all inventory issues, receipts, count adjustments, and transfers will create a GL transaction reflecting the change in inventory asset balances. In addition, any transactions that affect work-in-process inventory will create GL transactions, including work order issues and receipts.

Companies who do perpetual inventory accounting should set this flag to Yes, taking advantage of the automatic journal transactions created by MFG/PRO.

If this flag is set to No, GL transactions will not be created. Companies using periodic inventory accounting normally set this flag to No.

With periodic accounting, the accountant manually calculates Ending Inventory based on Beginning Inventory plus Purchases less Cost of Goods Sold. Manual journal entries must be made to post the Purchases and Cost of Goods Sold amounts, because these will not be posted automatically by the system.

This flag does not impact Memo item transactions. These do not create GL transactions regardless of this flag.

Another alternative is to allow MFG/PRO to create the journal transactions but not to post them. This is useful for creating manual journal entries under periodic accounting, or if you are using an external general ledger system. GL transactions can be printed and then deleted using the GL Transactions Report / Delete function on the Manager Functions menu.

Transfer Clearing Acct

Enter the GL account code used to track transfers within a site or between sites in the same entity.

Transfers between sites in different entities are tracked using the Intercompany Transfer account.

If this account is blank, the Purchases account of the item product line is used.

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. If Verify GL Accounts = Yes in the System/Account Control Program, each component you enter must be valid on its own and in combination with 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. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Allocation Code Maintenance.

Intercompany Acct

This field identifies the GL account code tracking intercompany transfers. This account is used when one database processes transactions for more than one company (entity). When a transaction references more than one entity, the system automatically creates the required intercompany balancing entries.

For example, an item at site 1000 (entity 1000) is transferred to site 2000 (entity 2000). The normal GL entry created by the receipt is:

- Debit Inventory (site 2000 entity 2000)
- Credit Inventory (site 1000 entity 1000)

Although this entry balances, it does not balance within an individual entity. Instead, the system creates two balancing entries:

- Debit Inventory (site 2000 entity 2000)
- Credit Intercompany (site 2000 entity 2000)
- Debit Intercompany (site 1000 entity 1000)
- Credit Inventory (site 1000 entity 1000)

The same Intercompany account number is used for all entities. You can specify a different Intercompany account for Accounts Receivable, Accounts Payable, Purchasing, and Inventory transactions.

If you are processing transactions for multiple entities, do not leave this field blank. When blank, intercompany entries are not created, leaving transactions unbalanced across entities.

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.

If Verify GL Accounts = Yes in the System/Account Control Program, each component you enter must be valid on its own and in combination with 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. During GL transaction post, the system automatically divides transaction amounts among the set of accounts, based on percentages defined in Allocation Code Maintenance.

Summarized Journal

All Inventory transactions normally create GL journal transactions. These may be created in detail, with one general ledger transaction for each Inventory transaction, or in summary by day.

Summarized Journal = Yes creates summarized journal transactions by day; generating just one transaction for each entity, account, sub-account, cost center, and project combination used. No creates detailed transactions.

The AR amount of the transaction is always summarized for posting regardless of how you set this flag.

When you first implement MFG/PRO, we recommend you create detailed journal entries. You can verify that each transaction is being processed correctly with the right account numbers, and can identify any mistakes.

Once you feel confident that entries are being correctly made, you can switch to a summarized journal which takes less space and is easier to handle in the GL. Greater detail is always available by printing transaction registers in the original module.

If you have lots of disk space, you may want to consider posting in detail. This can make the GL Account Inquiry with Drill-Down extremely powerful, allowing you to review any GL transaction and drill right back to the individual inventory transaction that created it–all on one screen.

Journal Reference Method

This field controls the summarization method when field Summarized Journal (icc_gl_sum) is set to Yes.

Method 0 generates one summarized journal transaction for each combination of date, entity, account, sub-account, cost center, and project. Method 10 generates one summarized journal transaction for each active session.

Summarized Journal =Yes creates summarized journal transactions by day; generating just one transaction for each entity, account, sub-account, cost center, and project combination used.

When Summarized Journal = No, this field has no effect, but must be zero.

Mirror Accounting

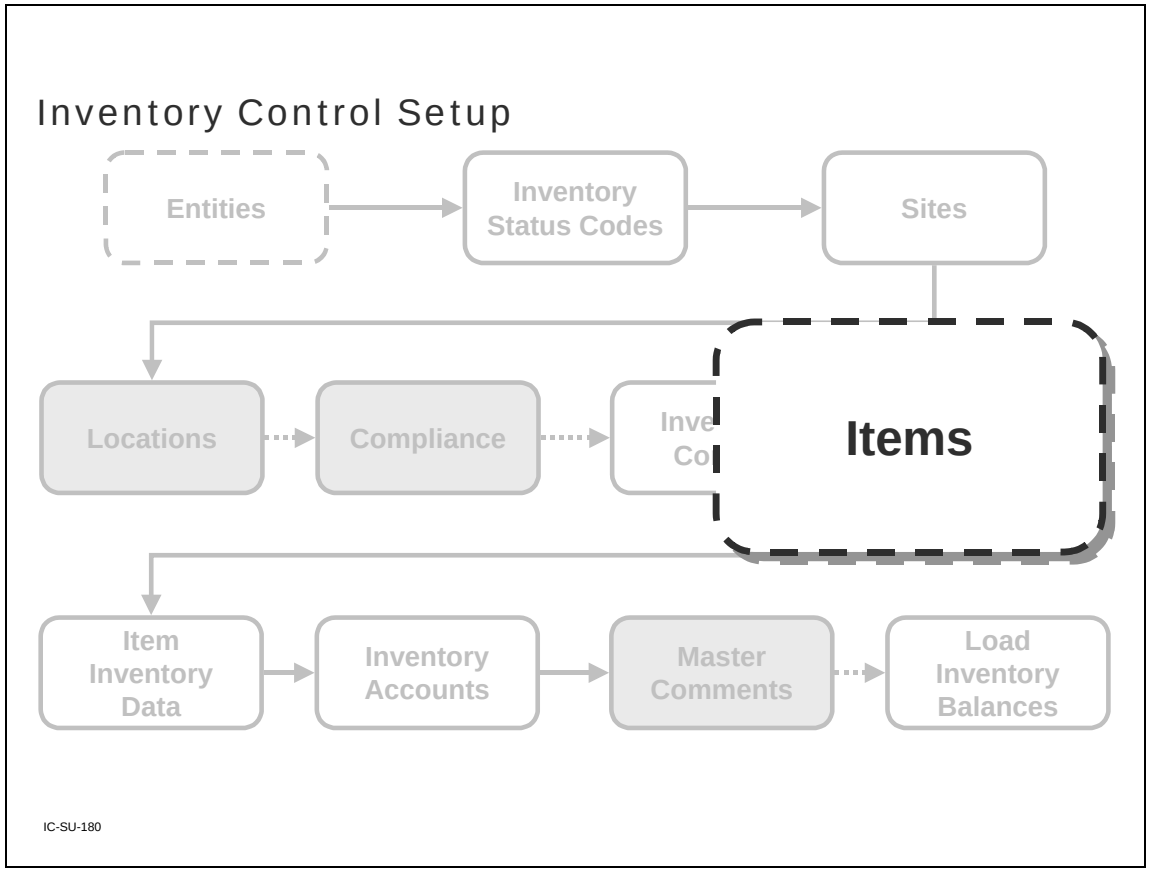
- Yes = Mirror accounts are in use
  - Whenever an inventory transaction is processed, the system checks the Mirror Account Table to see if there are mirror accounts set up
  - If there are, the mirror GL transaction is created automatically
- No = Mirror accounts are not used
  - Any entries in the Mirror Account Table are ignored

Mirror accounting is used in several European countries (Belgium, for example) where changes in inventory are required to be immediately reflected in the income statement.

For example, when material is issued from inventory to WIP, two transactions are:

- Balance Sheet Accounts: Debit WIP Credit Inventory
- Income Statement Accounts Debit Raw Materials Expense (Inventory mirror) Credit Increase in WIP (WIP mirror)

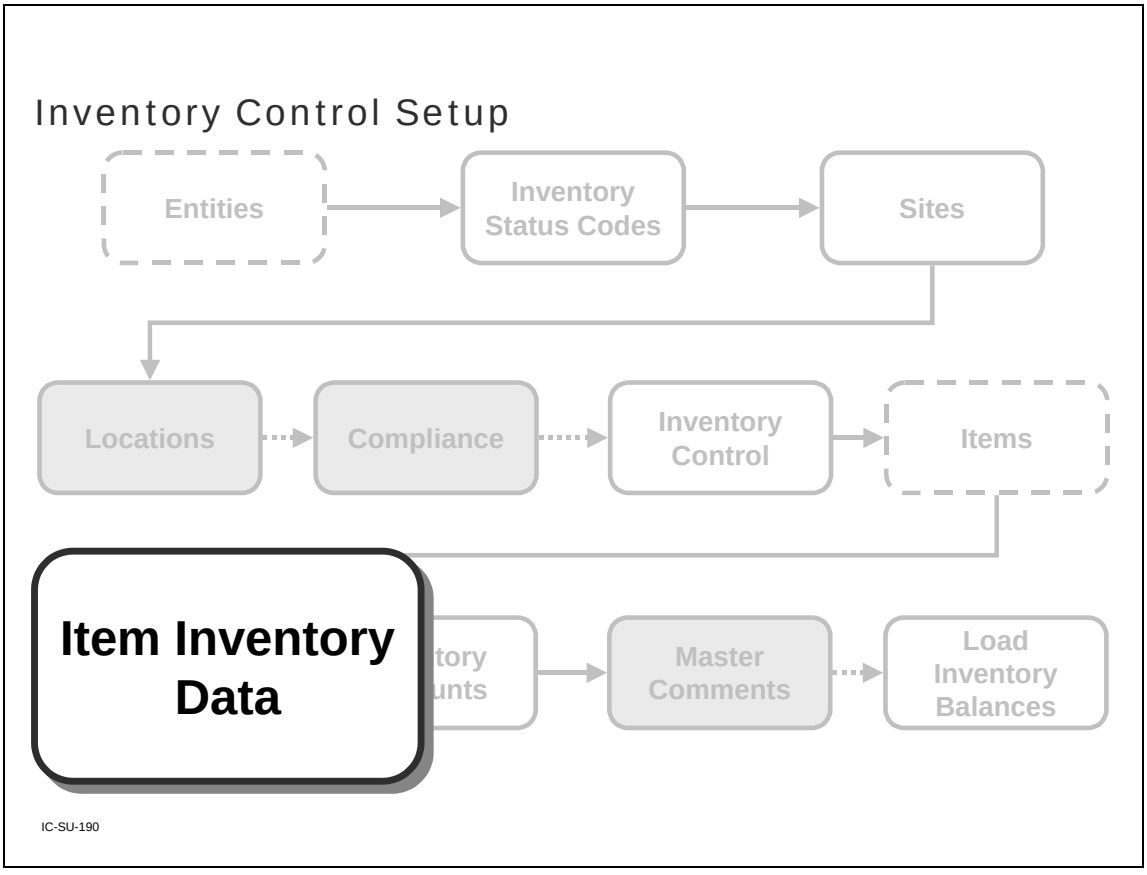
Note If you are processing transactions for multiple entities, this field should not be left blank. If left blank, no intercompany entries will be created, leaving transactions unbalanced across entities.



Items

You create item records for items and products stored in inventory and/or planned by MRP or DRP. The item master data contains records for all items, regardless of site. Item records contain information used throughout MFG/PRO.

You must create an item record/number for every inventory item.



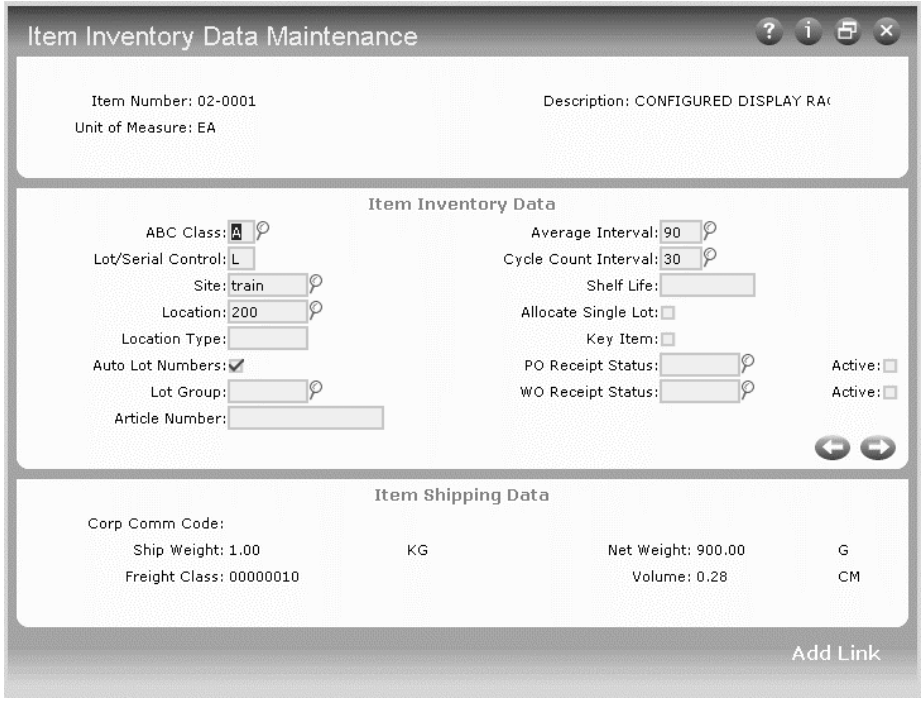
Item Inventory Data

Inventory control is responsible for the security, movement, accuracy, and in some cases the allocation of inventory.

Every item has inventory control information associated with it. MFG/PRO uses this information to track and control the movement of the item. For example, if an item has an expiration date, MFG/PRO does not issue the item after that date.

You can make sure that codes are entered consistently by entering the allowed codes into Generalized Codes Maintenance. The system verifies entered codes against these predefined values, preventing incorrect codes from being entered.

Item Inventory Data Maintenance – ABC Analysis



IC-SU-200

Item Inventory Data Maintenance

ABC Analysis

Enter a code classifying and ranking this item. This field is validated against predefined values entered in Generalized Codes Maintenance for field pt_abc, if any.

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 determine how an item is managed.

Class A items usually require tighter physical control, such as a locked stocking area, and tighter planning parameters, as well as more frequent cycle counts.

You can generate some reports, such as the Inventory Valuation Report, for ranges of ABC classes.

The value entered in Item Master Maintenance is used as the default for all sites. Set up site-specific values in Item-Site Inventory Data Maintenance.

You can use Item ABC Status Report/Update or to calculate ABC codes automatically based on annual item usage amounts.

- The top 20% are given class A, the next 30% are given class B, and the rest are class C

However, you can adjust these percentage as needed.

Any quantity below C is assigned a blank ABC code. For example, when A is 10%, B is 20%, and C is 30%, the remaining 40% is set to blank.

You can also classify items manually. You might do this for an item that has low use but is expensive or theft-prone.

Note When you first implement the system, load ABC classes either from the old system or manually. The Item ABC Status Report/Update or produces meaningful results only when it analyzes at least six-month's data.

While you can assign other class codes, Item ABC Status Report/Update or only reports and updates items with a class of A, B, C, or blank. Be careful not to assign a non-blank and non-ABC code to any item that may become an A, B, or C item.

Assign any non-inventory items such as configured products, pseudo items, or planning parts a different ABC class.

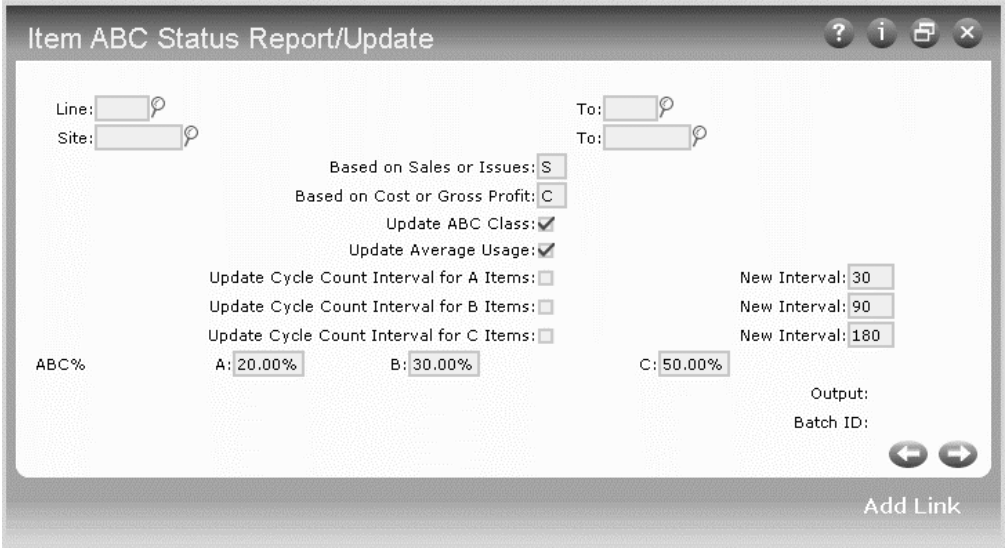
ABC analysis is based on Pareto's law which says that in any group of items to be controlled, a small percentage accounts for the largest percentage of the total effect. This is also known as the 80/20 rule, which says that 20% of the items have 80% of the effect.

In inventory management, 20% of the items generally hold 80% of the inventory value. Usually this value is monetary, but it can also include:

- Usage
- Lead time
- Scarcity
- Shelf life

Value can be any factor that makes this item more important than the average item.

Item ABC Status Report/Update



IC-SU-210

Item ABC Status Report/Update

MFG/PRO sets the classification of inventory items when you run the Item ABC Status Report/Update. The calculation is based on annual usage, either sales or issues, and cost or gross profit.

The Item ABC Status Report/Update identifies the item's relative importance and how tightly controlled it should be. The more important A items are cycle counted more often and more carefully than C items. (Count frequencies and error tolerances are identified by ABC Class.)

Normally ABC classifications are reviewed and updated at least once a year.

You can choose different methods of classification for different product lines.

> The top 50% of the items by gross profit of sales may be class A in one product line, but only the top 20% may be class A in another product line.

After the ABC analysis is run, you may want to change the system suggestions for classification for some items.

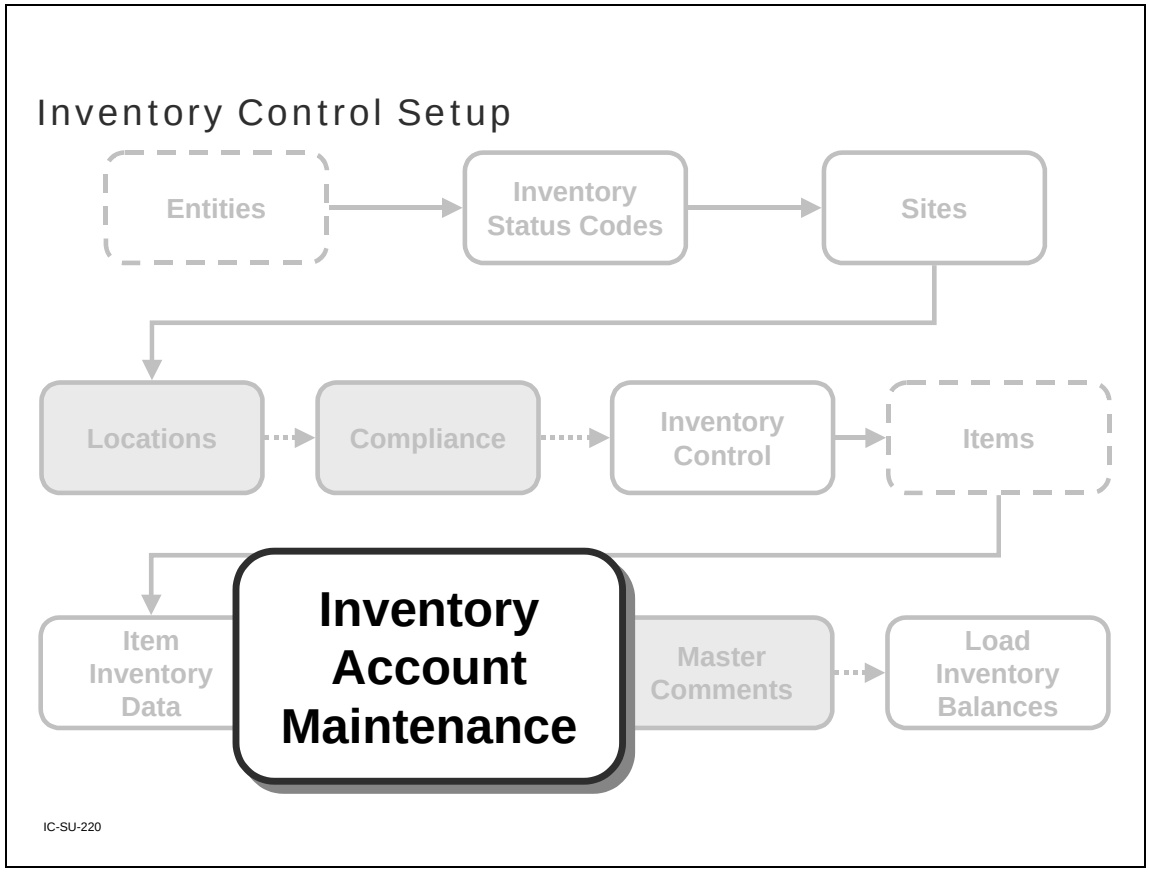
- A key $0.10 item that takes six months to buy and a $100 item may both be class A items.

Only items with a class of A, B, C, or Blank are reported and updated by the Item ABC Status Report/Update. Items you assign to any other class are not reported or updated.

Do not apply a non-Blank and non-ABC code to any item that may ever become A, B, or C items.

- Assign a different ABC class to any non-inventory items, such as:
  - Warranties
  - Configured products
  - Pseudo items
  - Planning parts

Important Item ABC Status Report/Update does not update Item Master Maintenance or Item Inventory Data Maintenance, but does update Item-Site Inventory Data Maintenance. Make manual adjustments in Item-Site Inventory Data Maintenance.

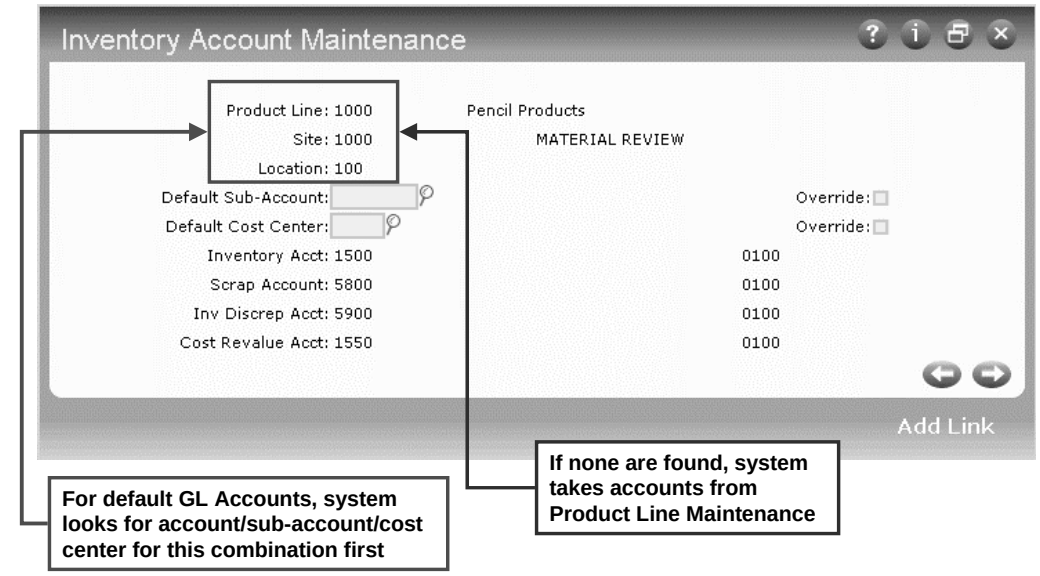


Inventory Accounts

Use Inventory Account Maintenance to assign different GL accounts to combinations of product line, site, and location.

Inventory Account Maintenance lets you 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.

Inventory Account Maintenance



IC-SU-230

Inventory Account Maintenance

You can assign different GL accounts for every combination of product line, site, and location to track transactions in:

- Inventory
- Scrap
- Inventory discrepancy
- Cost revaluation

This allows tighter monitoring of costs. Often, this is used to associate cost centers with different sites and locations. These accounts can be entered by using Inventory Account Maintenance.

Some uses for this function could be Material Review Board (MRB) locations, inspection locations, and consignment locations.

Inventory Transactions (Receipts, Issues, Transfers)

Posted to the inventory account.

Work Order Receipt Transactions

Posted to the scrap account whenever a reject quantity is entered.

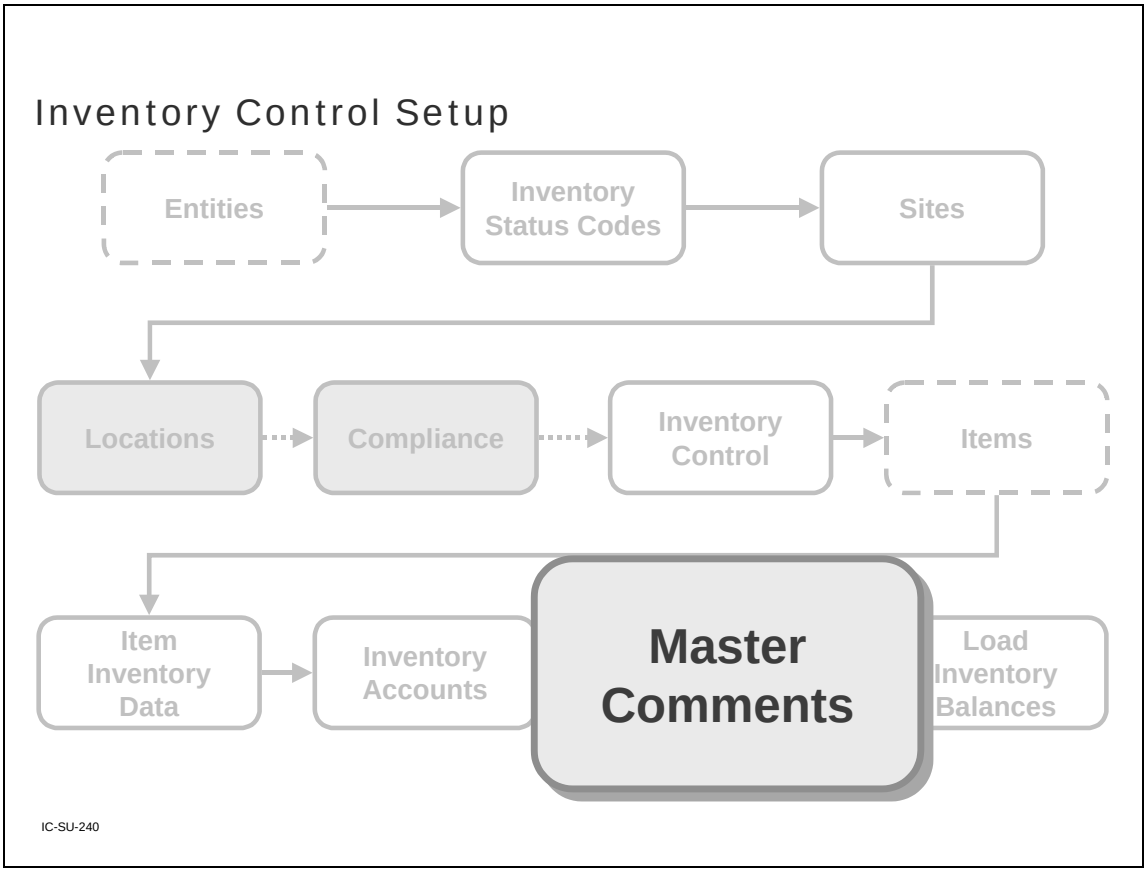
Inventory Discrepancy Account

Posted when Cycle Count Recounts or Physical Inventory Updates change inventory quantity on hand.

Cost Revalue Account

Posted whenever item GL costs are changed, necessitating a revaluation of inventory. Use:

- Product Structure Cost Roll-Up
- Routing Cost Roll-Up
- Current Cost Set Move to GL Set
- Cost Set Copy to Cost Set



Master Comments

You may want to take advantage of the Master Comment Maintenance feature, which allows you to store comments and copy them for use in headers or with item transactions.

Master Comment Maintenance

IC-SU-250

Master Comment Maintenance

This feature is useful for quotations for which standard text common to all or many quotations may be stored as master comments and then copied into individual quotations.

When a header or transaction comment screen is displayed, you can enter the comment ID and other parameters (language code, type code, and page number, for example) or merely press the Down key to scroll through the data. Pressing Enter copies the desired text to the document. Order-specific text can be added as necessary to complete the comment.

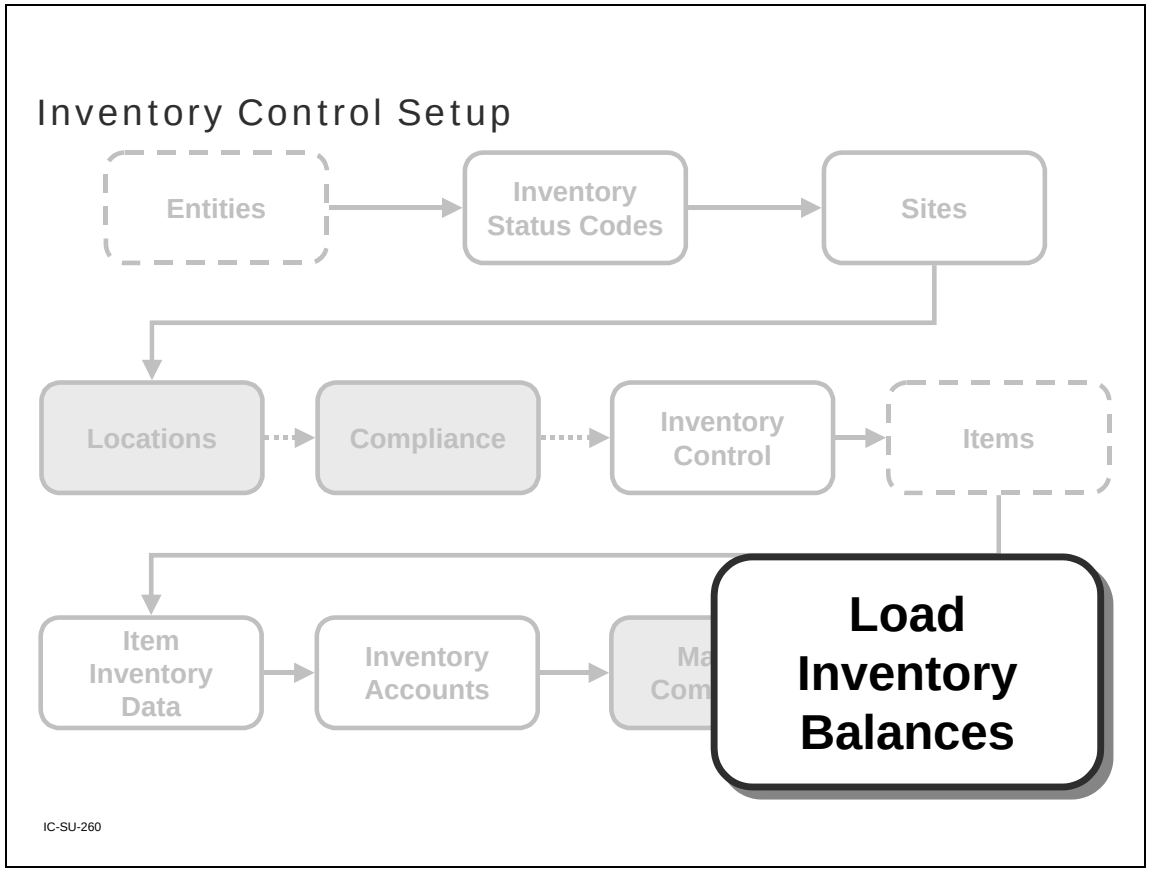
For header and item comments for quotations and sales orders, a pop-up screen appears when the comment is saved. This screen gives you the option to set Yes or No flags to determine whether or not the comment is printed on the quotation, sales order, invoice or packing list.

Multiple Languages

For multiple languages that need more than one description for an item, use Master Comment Maintenance records with a different language code associated with the different descriptions.

Secondary Descriptions

Use master comments for secondary descriptions if marketing has a different description than production.



Load Inventory Balances

Inventory Control and Physical Inventory Menus

IC-SU-270

Counting Inventory

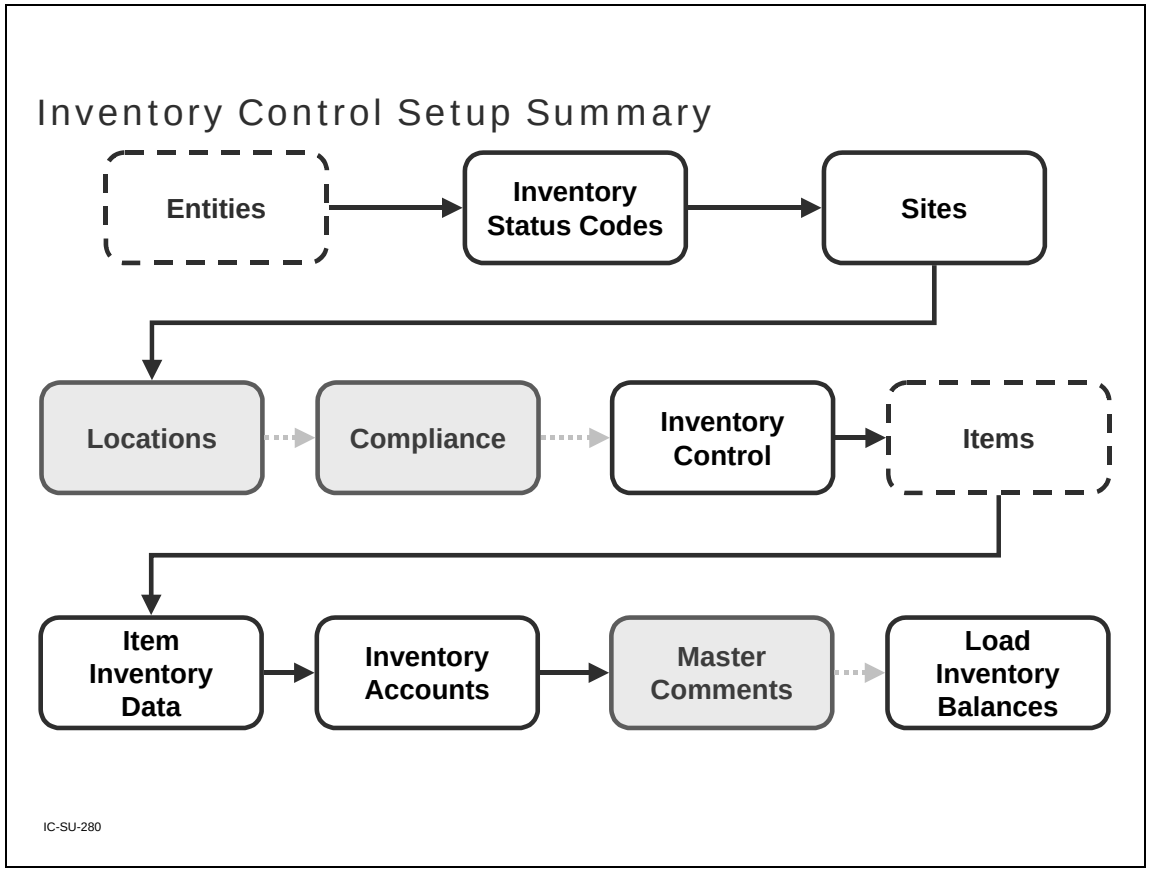
You can count and compare actual, on-hand inventory balances with system-maintained quantities using either of two counting methods:

1 Cycle counting (Inventory Control Program)

2 Physical counting (Physical Inventory Menu)

In each of these methods, 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.



Inventory Control Setup Summary

The data used in these exercises may not be the same as the data shown in the screen captures in this lesson.

Exercise: Set Up Inventory Data

Instructions: Use Item Inventory Data Maintenance to set up and manage where and how each item is stored. Confirm or set up the following inventory information for the following items (let all other fields default):

1. Item 09-0001 is stored in location 200.
2. Items 05-0005, 05-0085, and 10-0040 are stored in location 100.
3. Items 04-0005 and 05-0075 are key items.

4 Use Item-Site Inventory Data Maintenance to set the ABC class for glue (10-0040) at site train to Z.

5 Use Item ABC Status Report/Update to run the ABC Analysis Report to update the ABC class and cycle count interval for all items at site train.

6 Using Item-Site Inventory Data Maintenance, notice that the ABC class for glue (10-0040) did not change.

For additional exercises, workshops, and study questions:

See *Workshops and Study Questions* on page 177

Summary

- ✓ Introduction to Inventory Control
- ✓ Business Considerations
- ✓ Set up Inventory Control
- • Process Inventory in MFG/PRO

IC-SU-300

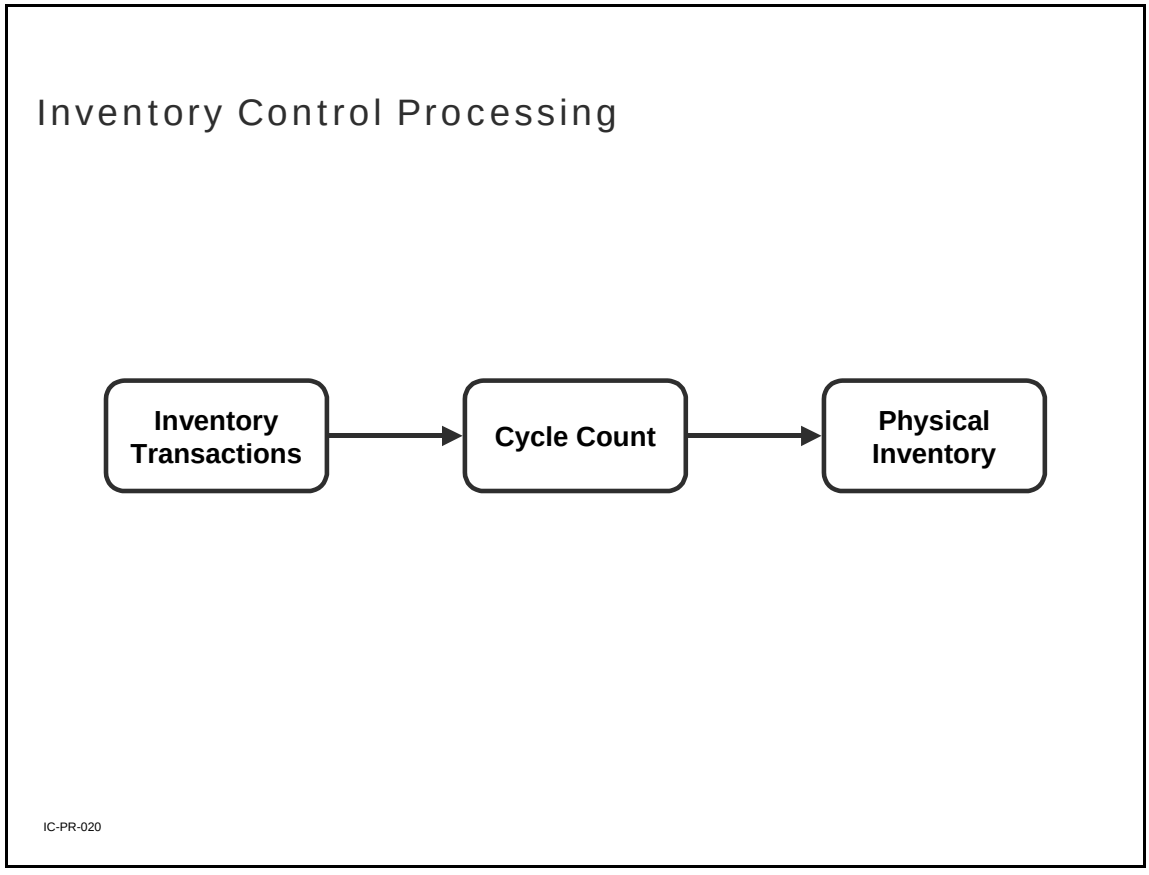
CHAPTER 4

Using Inventory Control

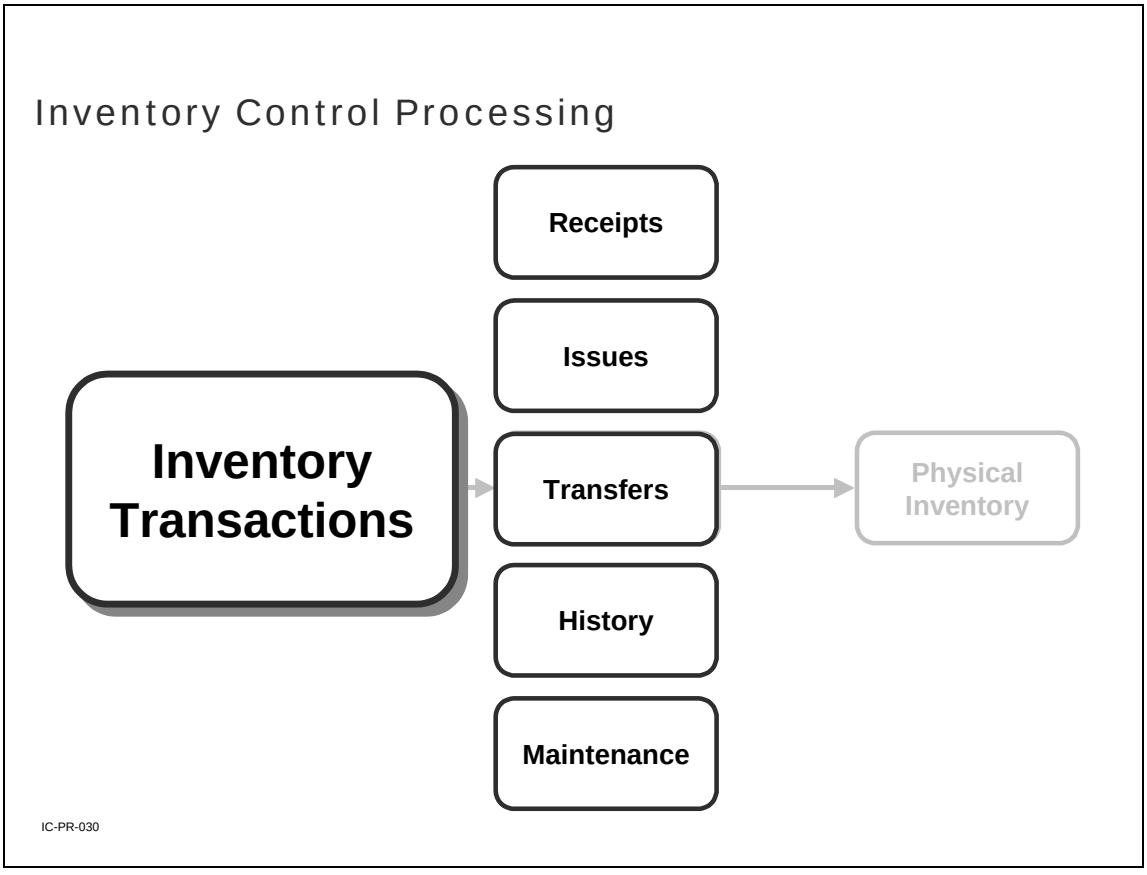
Process Inventory

- ✓ Identify some key business considerations before setting up Inventory Control in MFG/PRO
- ✓ Set up Inventory Control in MFG/PRO
- ✓ Process Inventory in MFG/PRO

IC-PR-010



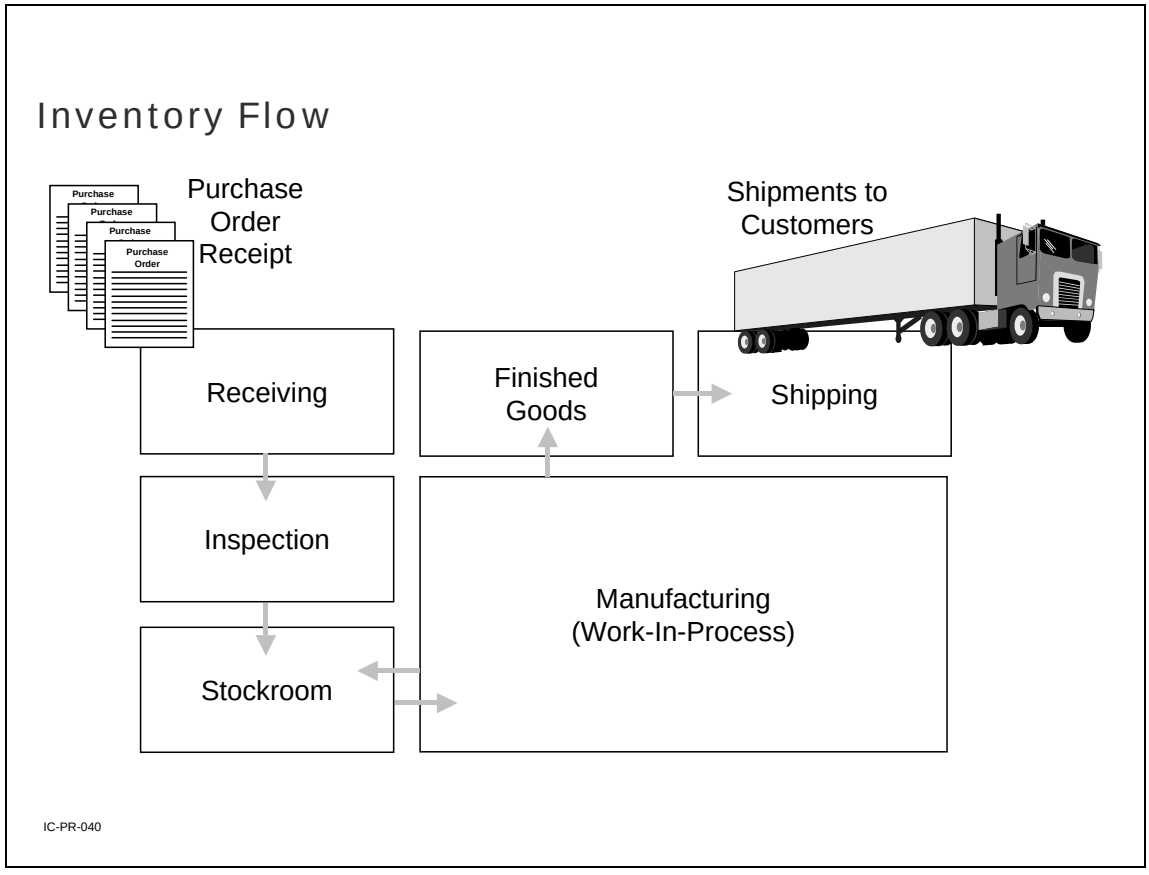
Inventory Control Processing



Inventory Transactions

MFG/PRO disallows certain transactions when a module replacing them is installed.

Example Issues–Return to Supplier will not work after Purchasing is installed. Use Return to Supplier to tag an issue as a return only if you have not yet implemented the Purchasing module. (This is not a complete return since it does not update purchasing or receiving history or current cost.)



Inventory Flow

Inventory comes in from suppliers, is inspected, stored, moved to the shop floor, moved back into stock as finished goods, and then shipped. Most of these movements change the value of inventory in some way.

Receipts and Issues

Receipts (items received from a supplier or shop)

- Value of inventory increased and inventory account debited

Issues (items removed from stock)

- Work in Process (WIP) account is debited (increased) if it is a work order issue

- Inventory account is credited (decreased)

Transfers

Movement from one inventory location to another, for example, from inspection to stock.

- Within a site, transfers do not affect inventory value

Shipments

A shipment is a movement from finished goods to the customer.

- Inventory credited
- Cost of goods sold is debited
  - Invoicing debits Accounts Receivable

Adjustments

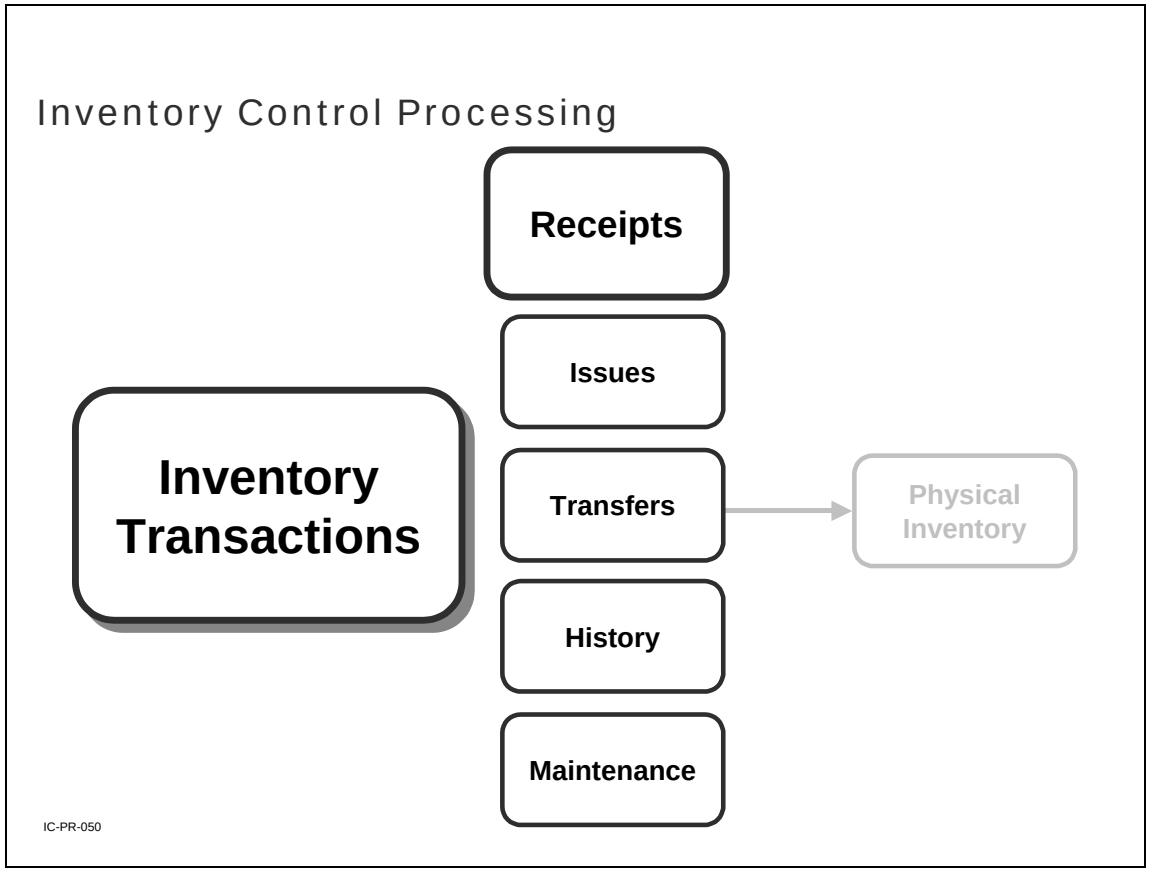
An adjustment can be a change in inventory at a location, due either to a cycle count or physical inventory.

- May be an adjustment to the GL cost of an item (revaluation)
- Debits or credits inventory and does the opposite to inventory discrepancy account

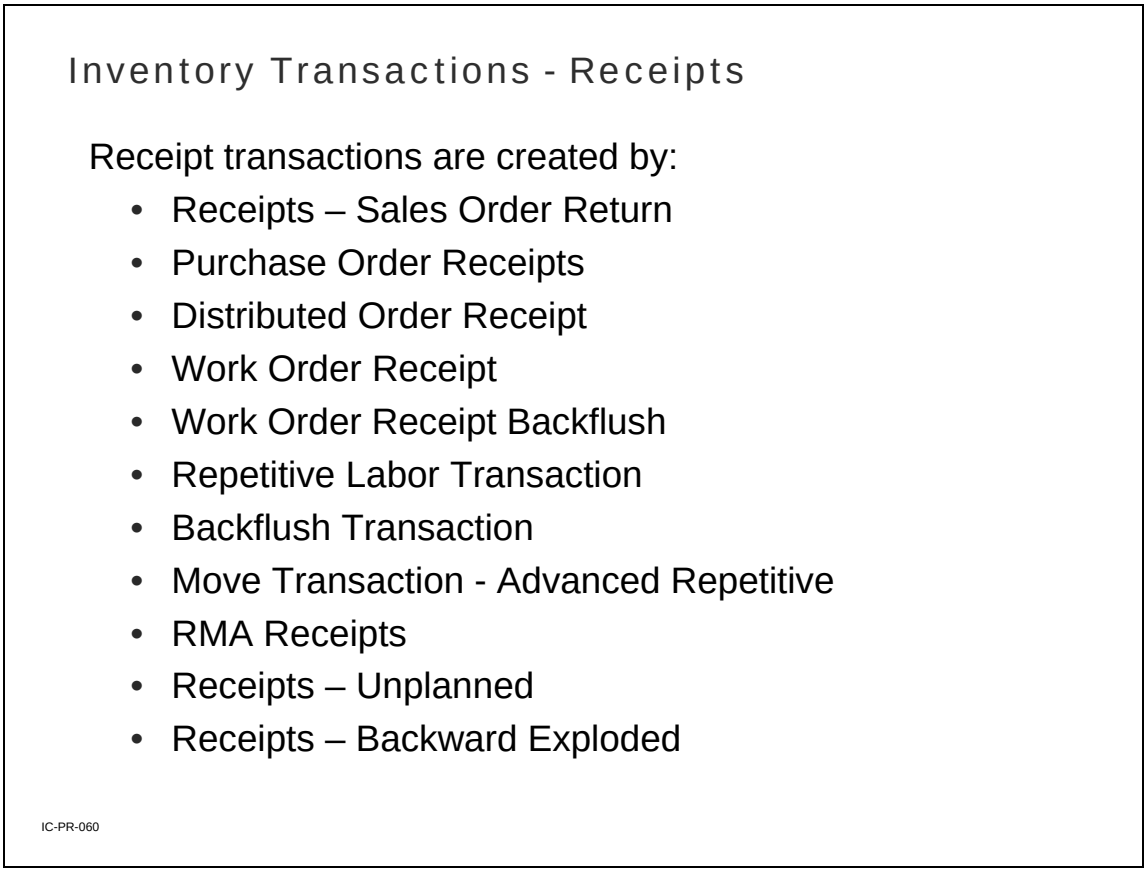
On-Hand Inventory

On-hand inventory balance for an item can be detailed by site, stock location, status, lot/serial number, and lot reference.

On any inventory transaction, you must specify the same detail that you set up for the item in Item Master Maintenance or Item Inventory Data Maintenance.



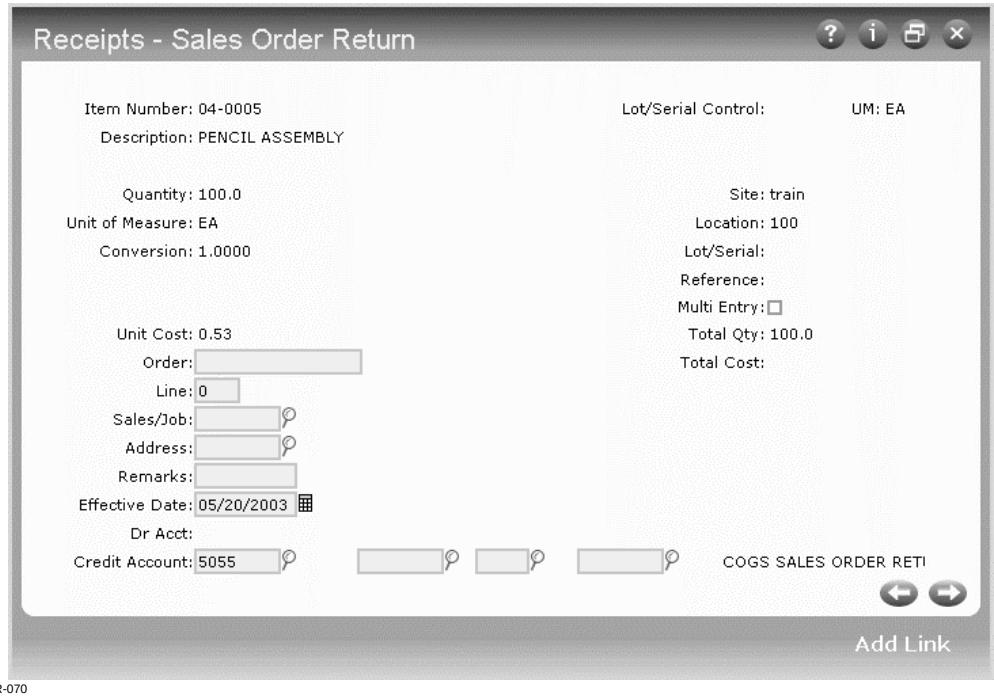
Inventory Transactions – Receipts



Receipts (items received from a supplier or shop)

- Value of inventory increased and inventory account debited

Receipts – Sales Order Return



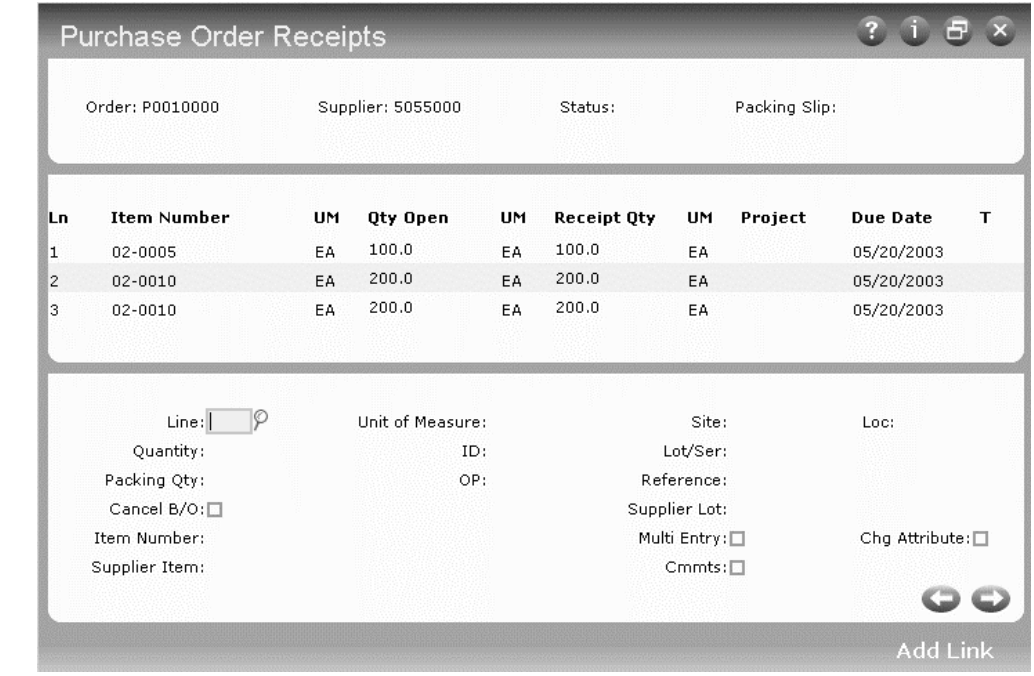
IC-PR-070

Receipts - Sales Order Return

Records the receipt and tags it as a return.

- Use only if the Sales Orders/Invoicing module is not implemented
- Does not update sales/commission history or generate a credit invoice
- If Multi-Entry = Yes, another screen pops up for entering a list of sites, locations, lot/serial, and lot reference numbers, together with a quantity for each one
- If the item you are receiving is designated lot/serial controlled, enter a lot/serial number
- Multiple sites and locations, lot/serial and lot reference numbers can be specified on one transaction using the Multi-Entry option

Purchase Order Receipts

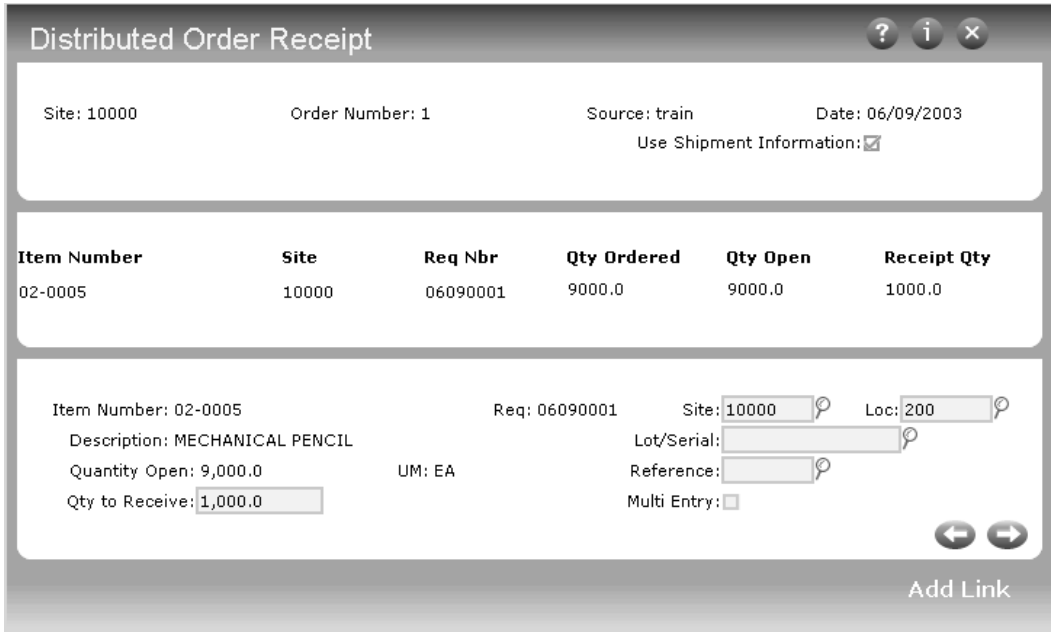


IC-PR-080

Purchase Order Receipts

- Record receipts against both purchase orders and supplier schedules
- Process multiple line items in a single transaction
- Correct errors made in receiving by entering negative quantities
  - May require reopening a purchase order line to do this

Distributed Order Receipt

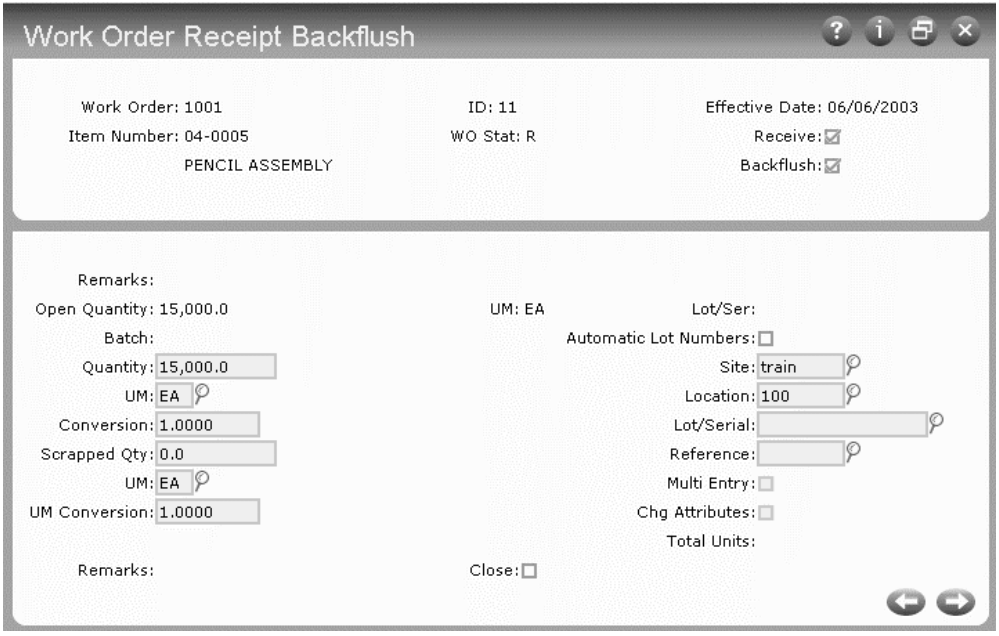


IC-PR-090

Distributed Order Receipt

At a source 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.

Work Order Receipt Backflush



IC-PR-110

Work Order Receipt

Increases inventory quantities at designated sites and locations and decreases work in process (WIP).

Updates work orders to reflect the quantity completed and scrapped, and decreases the quantity open for MRP.

Scrapped Qty

- The number of items rejected on this work order
- Reject quantity appears on work order history and cost reports
- Total GL cost of the rejected items posts to the scrap account

Ref

- Lot reference, with site, location, and lot/serial number, specifically identifies inventory quantities
- May be either the production lot of the item or a location reference such as a skid, roll, or pallet number

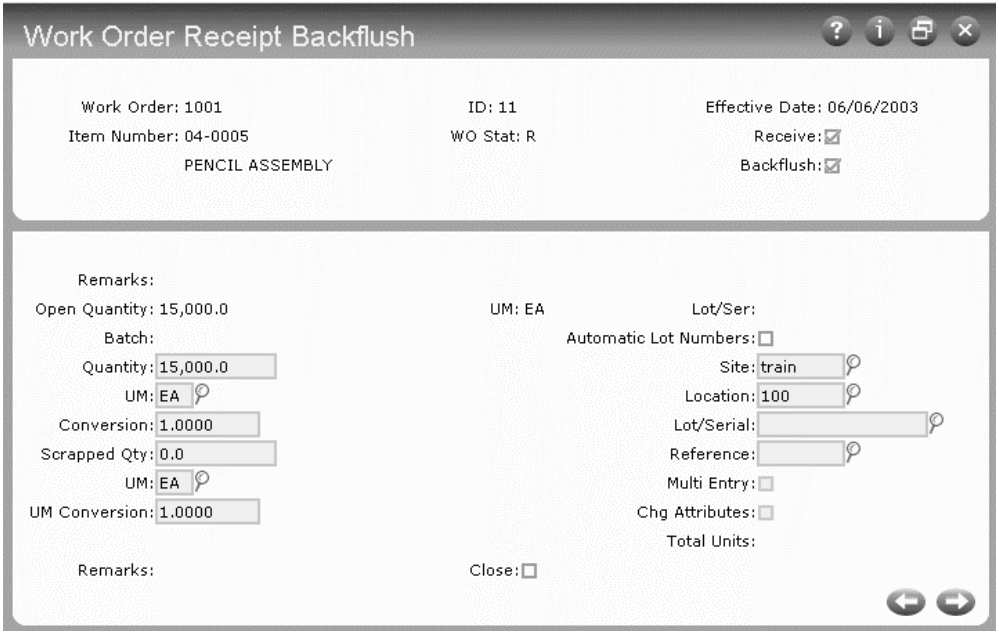
Multi Entry

- Indicates whether this inventory transaction references multiple sites and locations, or multiple lot/serial numbers or lot reference numbers
- If Multi Entry = No, this inventory transaction is processed using the site, location, lot/serial, and lot reference entered on this screen
- If Multi Entry = Yes, another entry screen is displayed where you can enter multiple lines for this inventory transaction
  - Each line lets you enter a site, location, lot/serial, lot reference number, and quantity
  - The open quantity on the order will be updated to reflect the total entered in the multi-entry screen

Set Attributes

- Indicates whether to accept the default inventory attributes
- Set Attributes = No receives the items into the inventory location specified and assigns the default inventory attributes
- Set Attributes = Yes lets you enter the Inventory Status, Assay%, Grade, Expire Date, and Active settings

Work Order Receipt Backflush



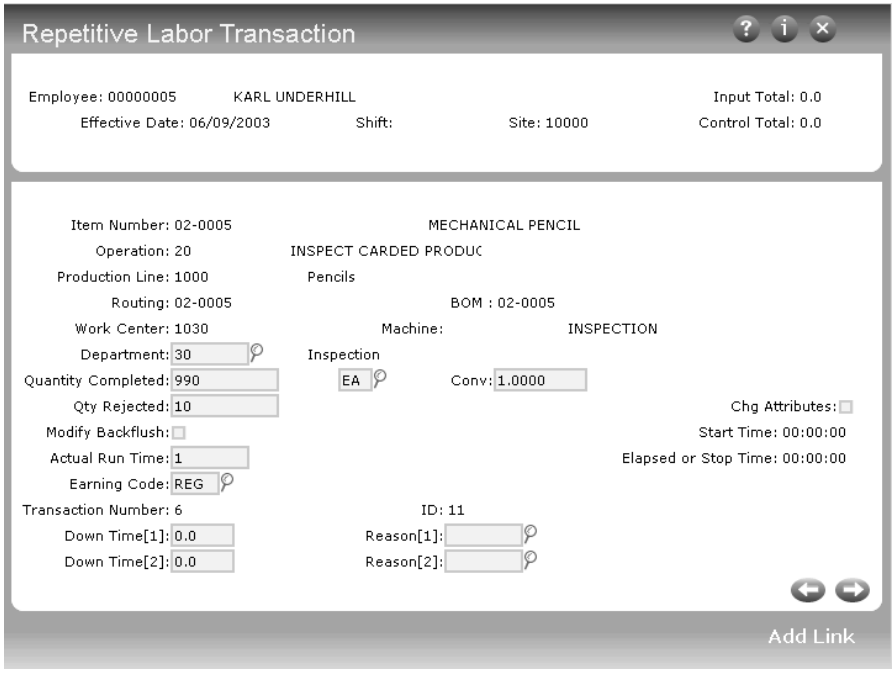
IC-PR-110

Work Order Receipt Backflush

Combines the functionality of Work Order Component Issue and Work Order Receipt.

- Allows backflushing of quantities different from those received
- Keeps track of inventory transactions used to issue components to a work order and excludes floor stock

Repetitive Labor Transaction



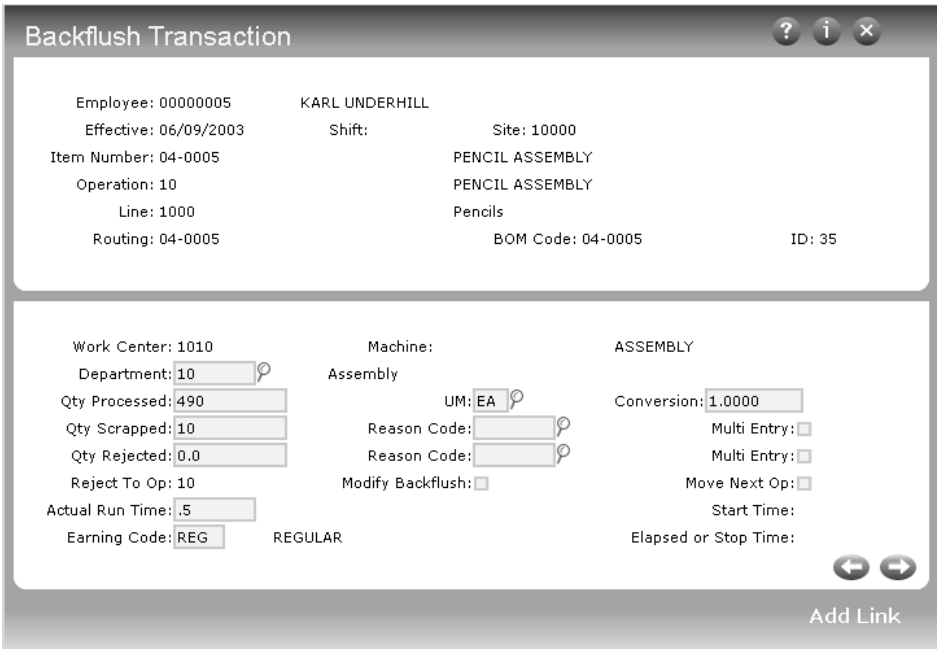
IC-PR-120

Repetitive Labor Transaction

Complete and review before starting the new period.

- Provides feedback for repetitive operations
- Requires use of an employee code
- Triggers inventory transactions to backflush components and receive completed units

Backflush Transaction - Advanced Repetitive



IC-PR-130

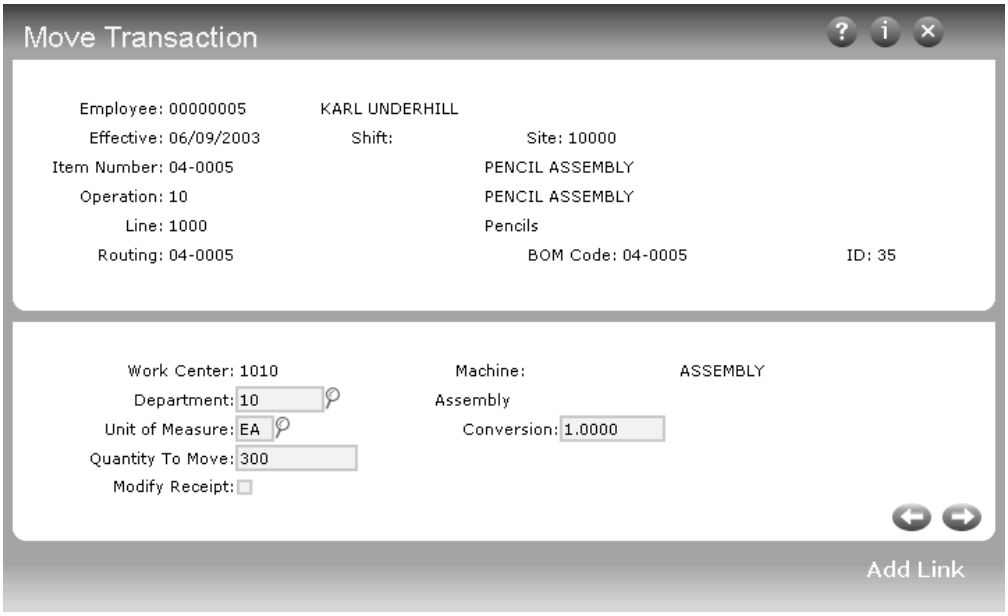
Backflush Transaction - Advanced Repetitive

Use this transaction to register production at a manufacturing operation.

- Consumes (backflushes) resources required by the operation
  - The value of these resources is added to work in process
  - Reject and scrap quantities may be entered (optional)

The quantity processed, less any reject and scrap, may be moved to the next operation with a receipt to finished material inventory if it is the last operation.

Move Transaction - Advanced Repetitive



IC-PR-140

Move Transaction - Advanced Repetitive

Transfer a quantity from the input queue of a manufacturing operation to the output queue of the following operation.

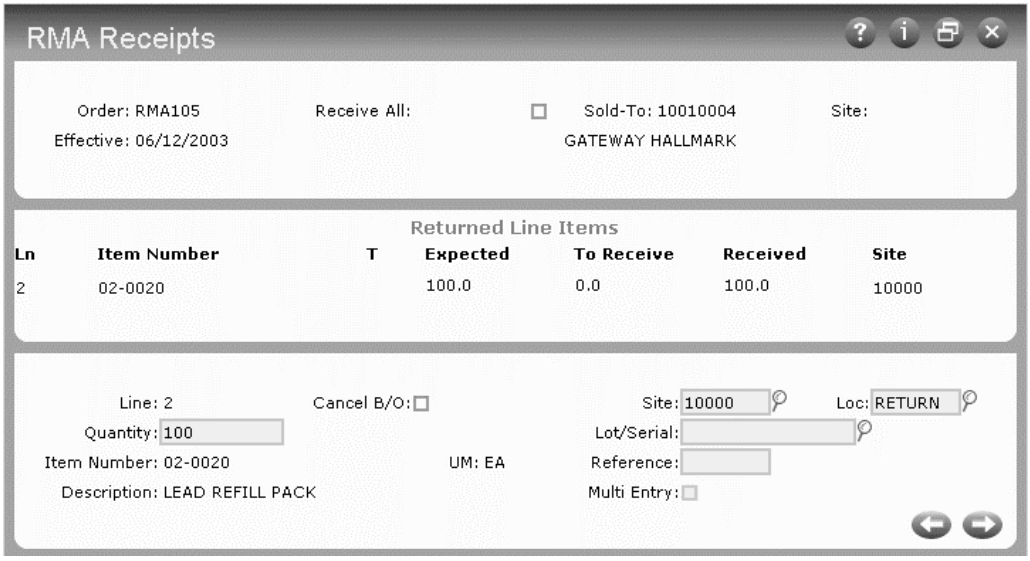
- If there is no following operation, transfer to finished material inventory

When entering a repetitive transaction for the first time, the system creates a cumulative work order.

- Cum orders contain work in process quantities and values
  - When the cum order is created, the routing and product structure as of the effective date entered, along with work center labor and burden rates, are captured into the cum order
  - A cost roll-up is performed on the captured data

  - For standard-costed finished items, these captured and rolled-up costs are used as the rates at which resources are added to or removed from WIP
- General ledger postings are generated for the receipt of finished materials
  - General ledger transactions are stored in the unposted transaction table until they are posted

RMA Receipts



IC-PR-150

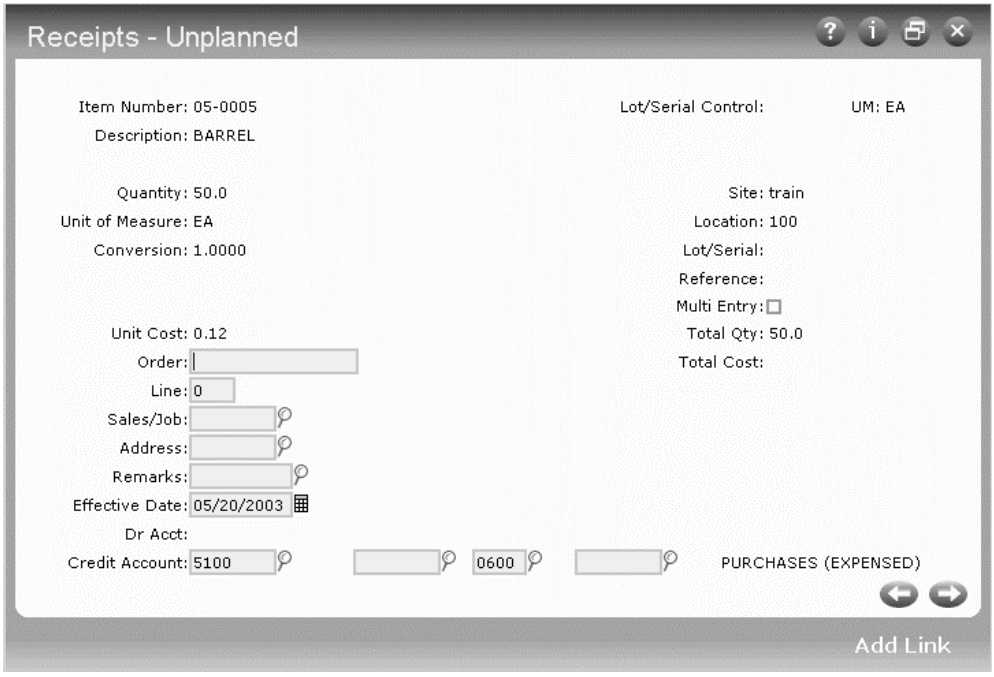
Return Material Authorization (RMA) Receipts

Records customer return for credit, repair, or replacement.

Items are put into inventory at specified site and location and customer credit is recorded.

Once all line items have been received and shipped and all quantities posted, the system removes the RMA.

Receipts - Unplanned



IC-PR-160

Receipts - Unplanned

A receipt not related to any open sales, purchase, manufacturing, or quality order is an unplanned receipt.

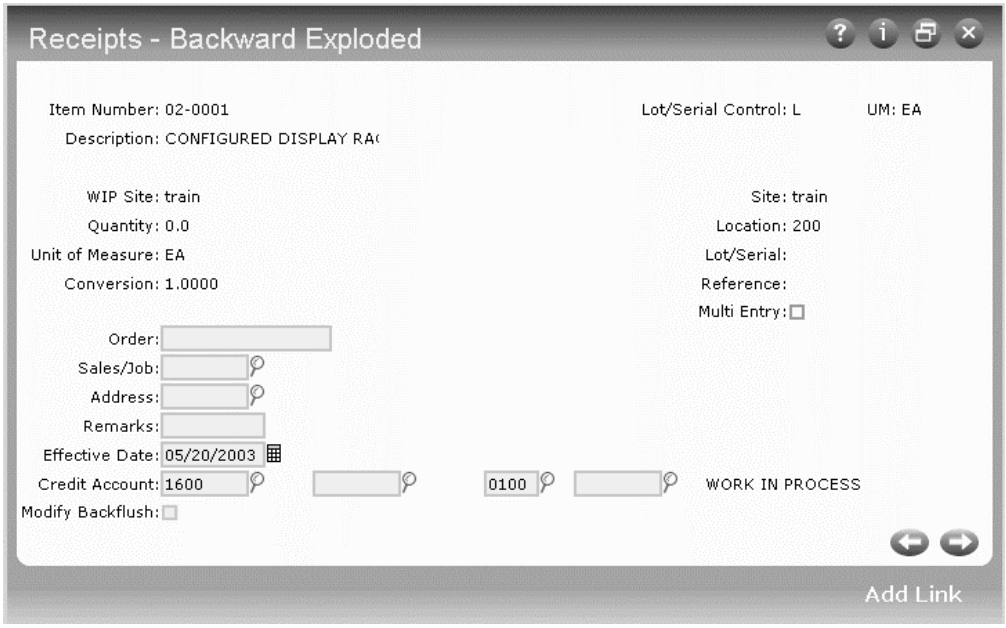
- Use to record receipt of miscellaneous inventory (floor stock items sent back from production, or materials sent back from engineering)
- If the item you are receiving is designated lot/serial controlled, enter a lot/serial number
- For multiple sites and locations, lot/serial and lot reference numbers can be specified on one transaction using the Multi-Entry option

Use unplanned receipts to record:

- Miscellaneous inventory receipts (floor stock items sent back from production or materials sent back from engineering, for example)

- Receipt of materials from a manufacturing order that has already been closed for accounting purposes
- Can also be used to enter initial inventory balances when first implementing

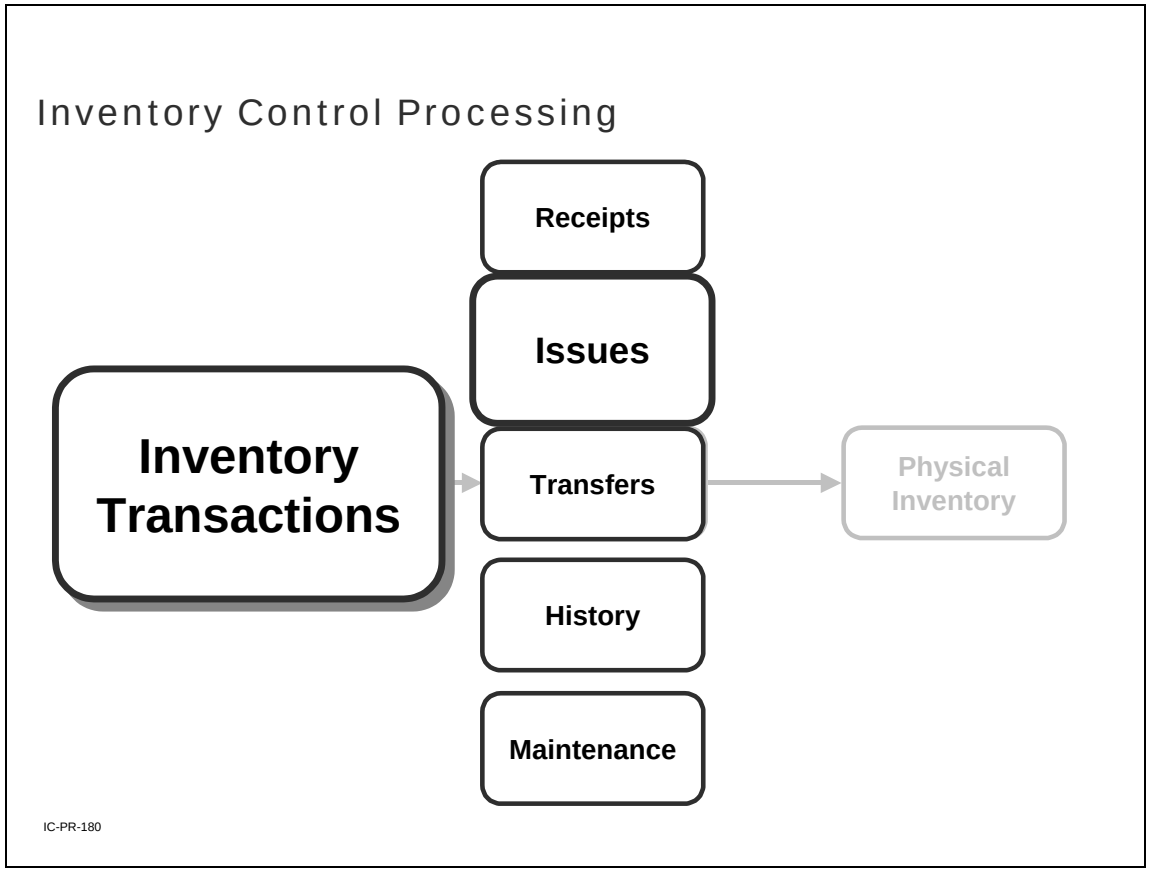
Receipts - Backward Exploded



IC-PR-170

Receipts - Backward Exploded

Useful to make up kits, tear down subassemblies, “converting” part numbers, assembling packaging, etc., when a work order is not needed.



Inventory Transactions – Issues

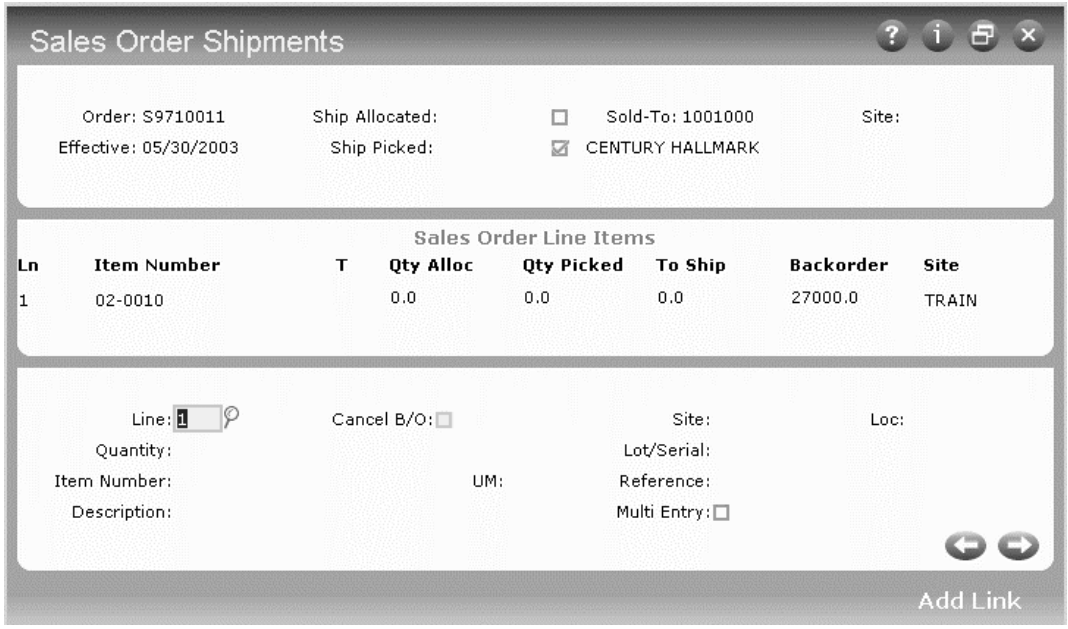
Inventory Transactions – Issues

Issue transactions are created by:

- Sales Order Shipments
- Work Order Component Issue
- Purchase Order Returns
- Return to Supplier Menu (RTS)
- Issues - Unplanned
- Distribution Order Shipments

IC-PR-190

Sales Order Shipments



IC-PR-200

Sales Order Shipments

Allocations

- Ship Allocated = Yes
- Ship Picked = No

Picklists/Packing Lists

- Ship Allocated = No
- Ship Picked = Yes

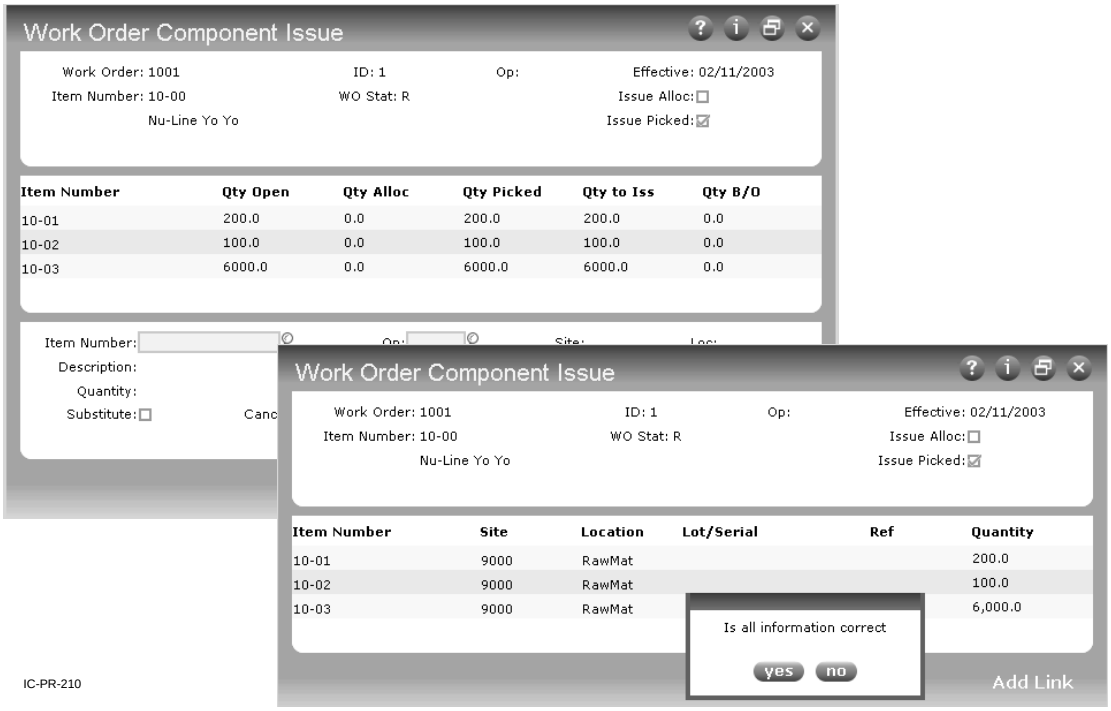
MFG/PRO displays all open line items and quantities for the specified order. Select line items and specify quantity for shipping.

Warning messages are displayed when:

- The order value in base currency is less than the control table value, if the Minimum Shipment Amount flag in the Sales Order Control Program is set to Yes
  - This message can also display in the Sales Order Menu and Sales Order Credit Maintenance
- The cumulative quantity shipped for a scheduled line exceeds the maximum order quantity for that line

After selecting and verifying all items to ship, MFG/PRO displays the trailer information (financial). You can now enter information such as freight charges, special charges, bill of lading numbers and carrier information.

Work Order Component Issue



Work Order Component Issue

There are two ways to issue inventory to a work order:

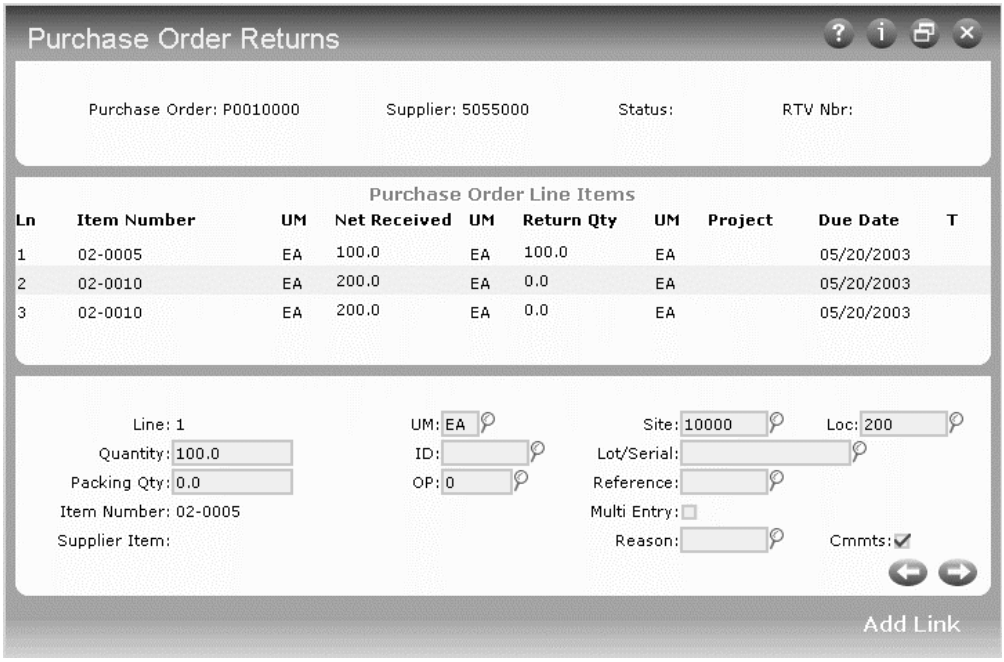
1. Directly, using Work Order Component Issue
2. As completed products are received, using Work Order Receipt Backflush

   Work Order Receipt Backflush:

   - Combines the functionality of Work Order Component Issue and Work Order Receipt
   - Allows backflushing of quantities different from those received

Both methods keep track of inventory transactions used to issue components to a work order and exclude floor stock issued using an unplanned issue transaction.

Purchase Order Returns



IC-PR-220

Purchase Order Returns

There are two ways to return goods to a supplier:

1. If the purchase order still exists, use Purchase Order Returns
2. Use Purchase Order Maintenance to enter a new line or, if necessary, a new order for the items to be returned
   - Enter the quantity as negative
   - Receive the items in Purchase Order Receipts

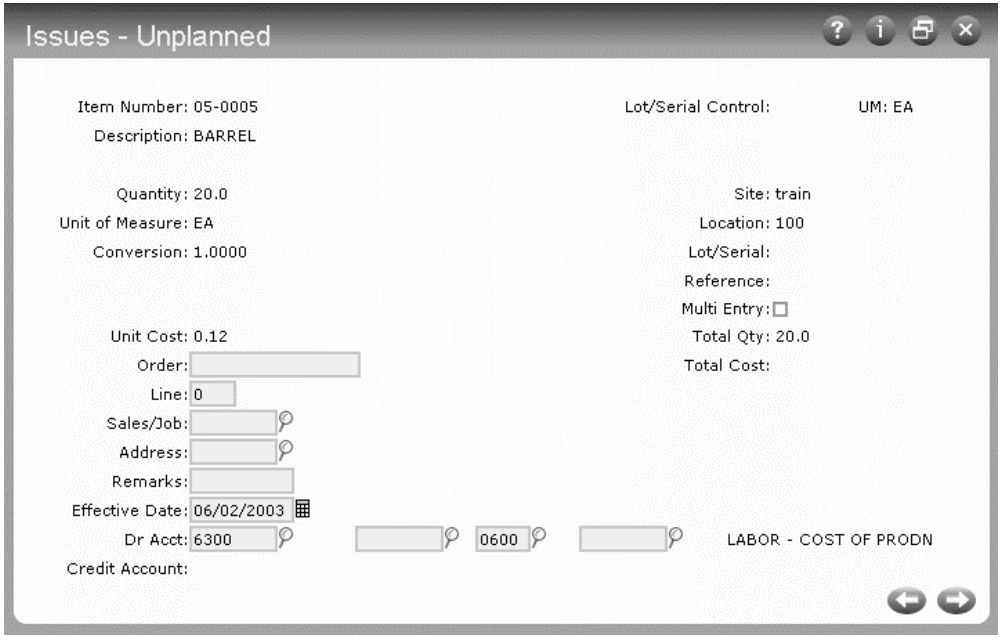
Return to Supplier (RTS) Menu

IC-PR-230

Return to Supplier (RTS) Menu

Records that you have returned a certain quantity of an item to a certain supplier and are expecting either replacement items or a credit.

Issues - Unplanned



IC-PR-240

Issues - Unplanned

An issue not involving any open sales, purchase, manufacturing, or quality order is an unplanned issue.

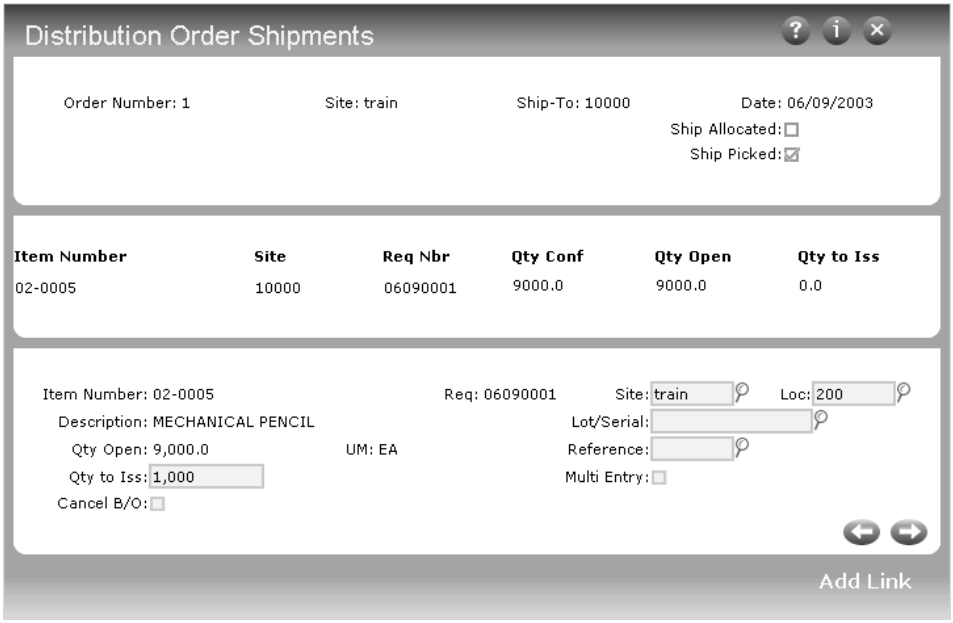
- Normally there is just one entry screen
- If you set Multi-Entry to Yes, you can enter a list of sites, locations, lot/serial, and lot reference numbers, and a quantity for each one

Use unplanned issues to record miscellaneous inventory issues such as

- Floor stock items sent out to production
- Materials sent to engineers for building prototypes or testing

Use Inventory Transfer Menu function instead of an inventory issue/receipt to record transfers. Transfer functions maintain complete lot/serial traceability.

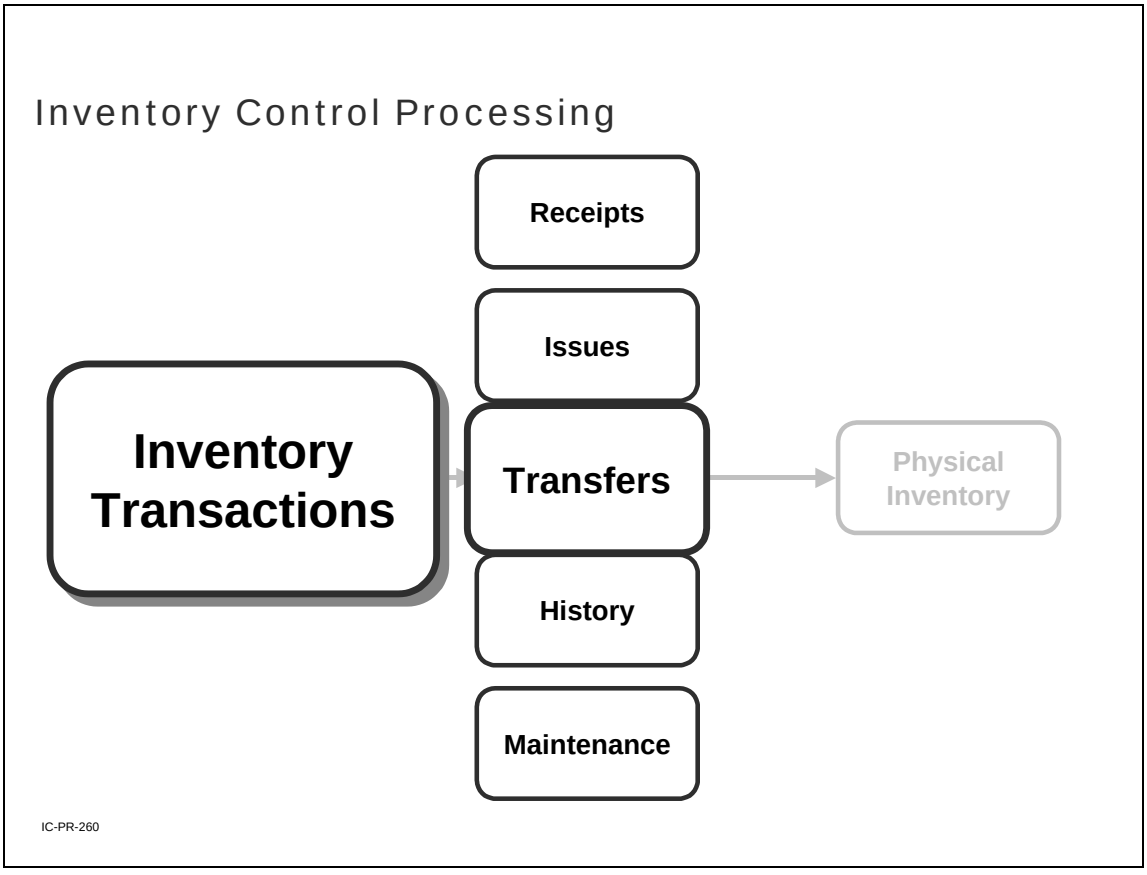
Distribution Order Shipments



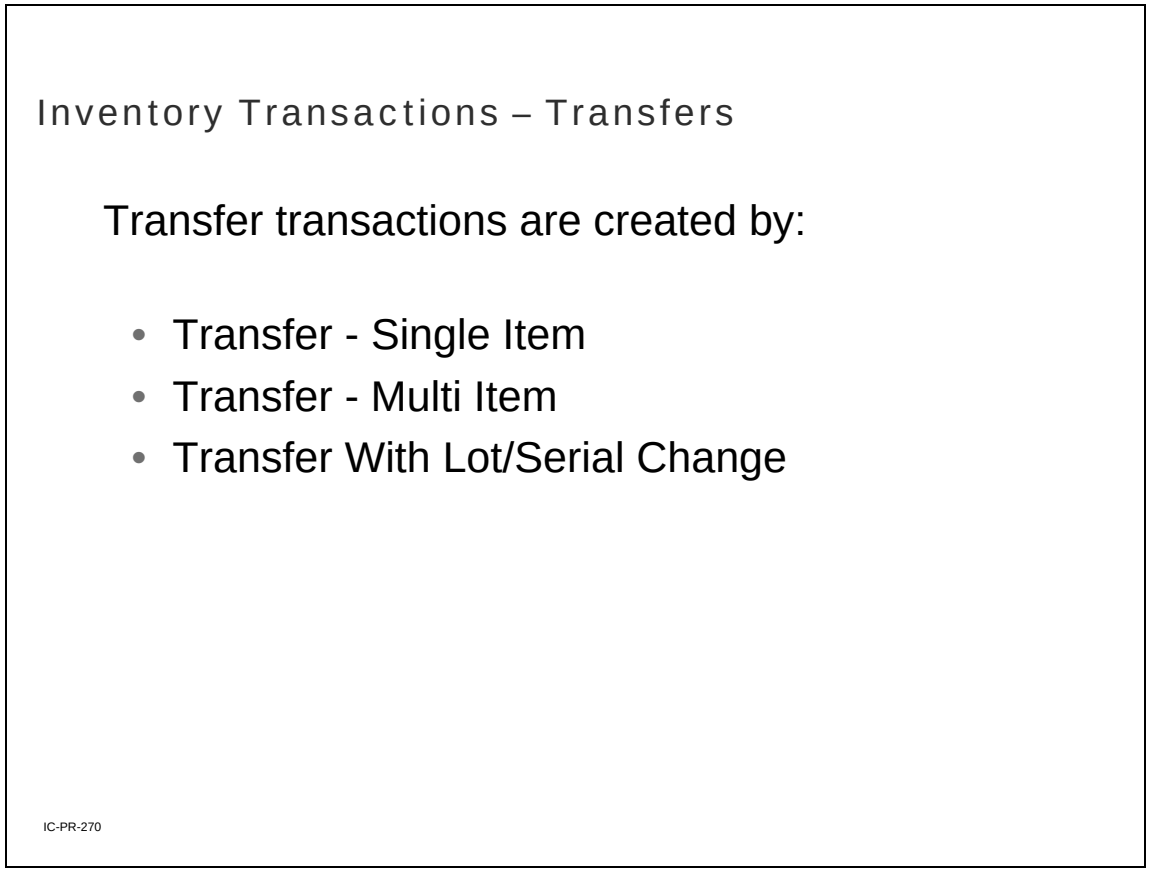
IC-PR-250

Distribution Order Shipments

Records that you have sent items to another site in your company. These items are taken out of your inventory and moved to an in-transit site and location.

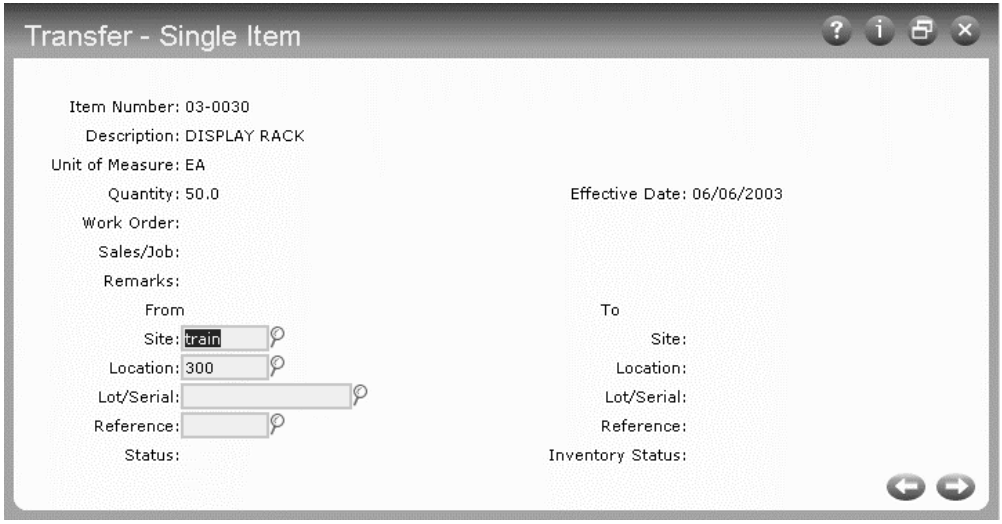


Inventory Transactions – Transfers



Occasionally inventory is moved to a different location for storage (from inspection to stock, for example). This is known as a transfer-inventory movement instead of inventory use. The three types are listed above and discussed on the following pages.

Transfer - Single Item

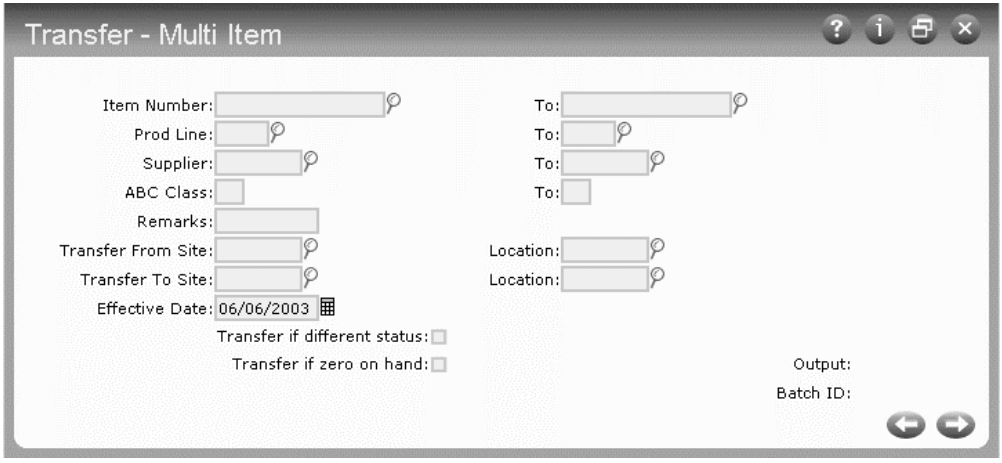


IC-PR-280

Transfer - Single Item

Transfer a specified quantity of a single item from one location to another. When the inventory status code of the From and To locations differ, you can select which one to use for the item.

Transfer - Multi Item



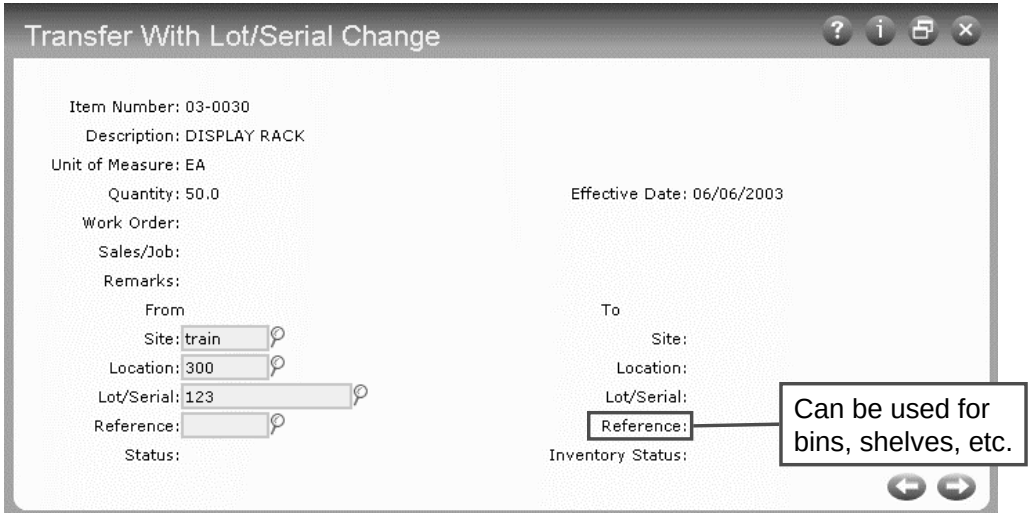
IC-PR-290

Transfer - Multi Item

The entire quantity of the inventory item is transferred from one location to another.

- Cannot transfer a partial quantity
- Generates a report showing the items and quantities transferred

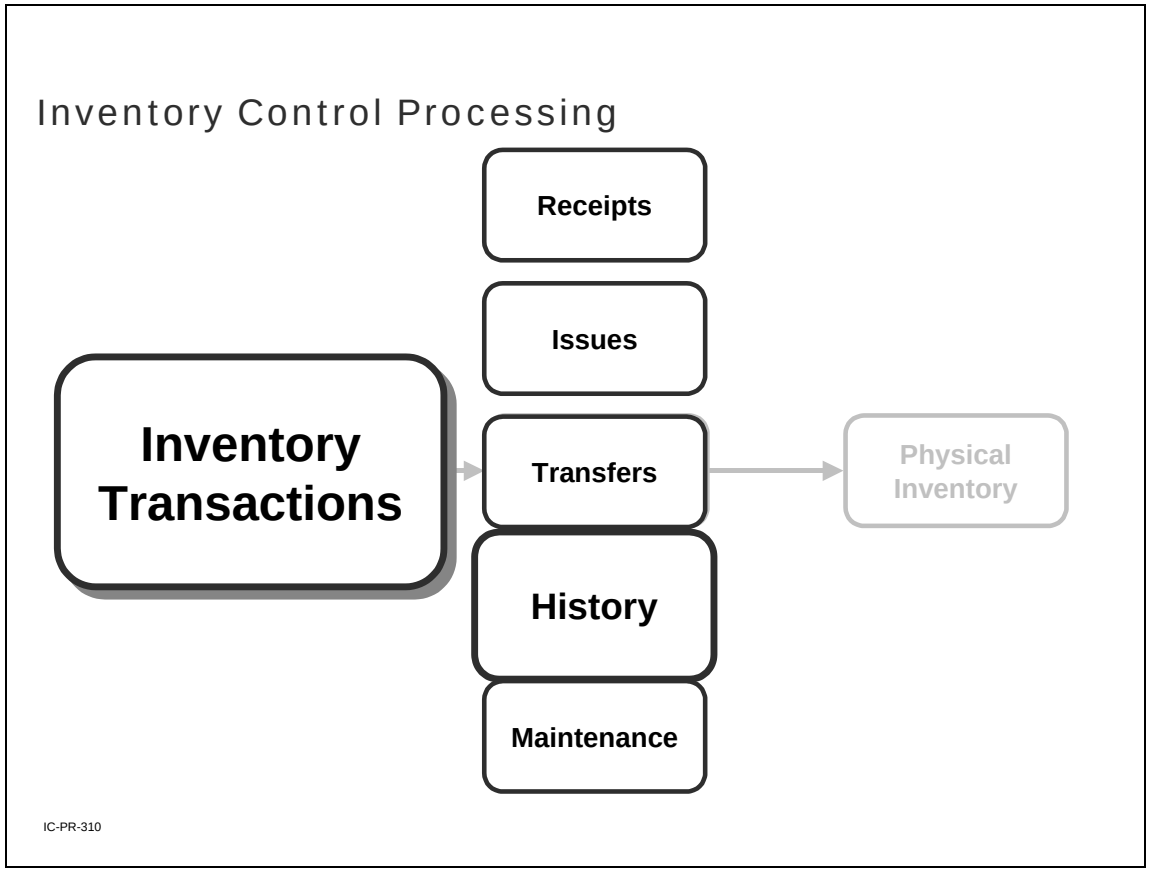
Transfer With Lot/Serial Change



IC-PR-300

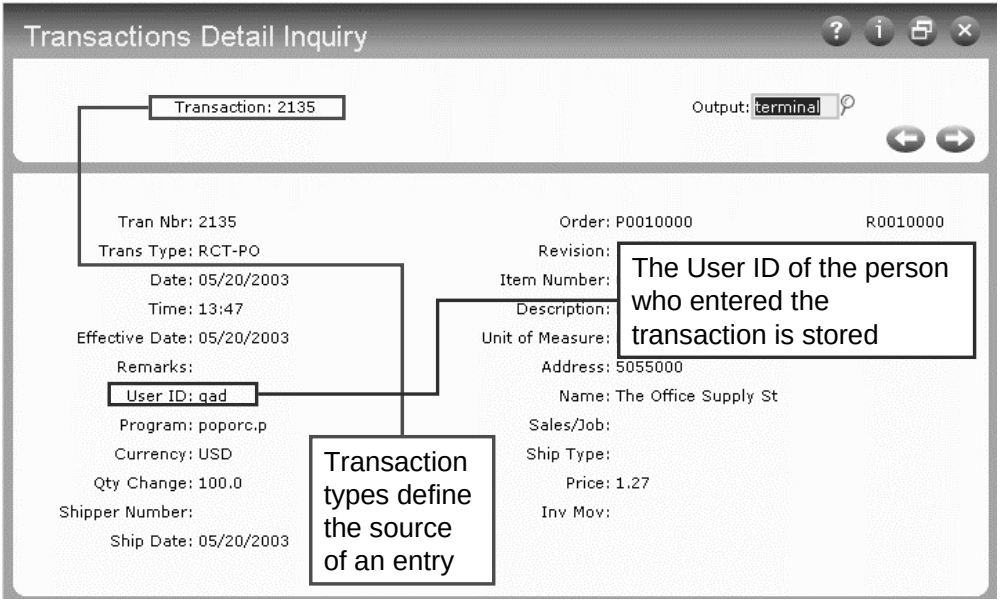
Transfer With Lot/Serial Change

Changes lot/serial and lot reference numbers associated with an item (in addition to site and location).



Inventory Transactions – History

Transactions Detail Inquiry



IC-PR-320

Transactions Detail Inquiry

Every inventory transaction is registered in an inventory transaction history table that:

- Traces quantity discrepancies and gives complete lot/serial traceability
- Stores the login ID of the person making the transaction
  - If a person walks away from inventory transaction history screens without logging off, he will be the person of record for subsequent transactions
- Records date, transaction type, item, and order number
  - Transaction types are used here to define the source of an entry
  - ORD-SO is used for booking history and tracking sales order line item changes

Inventory Transaction Types

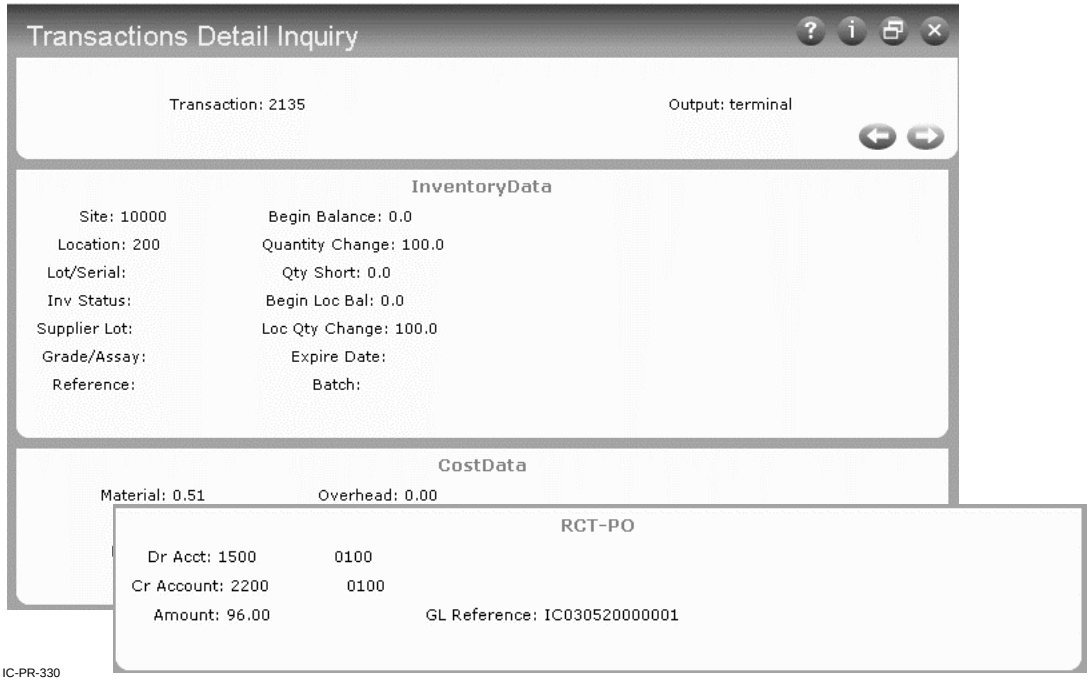
- Issues
- Receipts
- Transfers
- Changes
- Counts
- Bookings

Transactions by Item Browse/Inquiry lists transactions in reverse order by transaction number for a specific item.

Other reports such as Transactions by Order Report and Transactions Accounting Report give a variety of selection criteria for the audit trail, including all transactions:

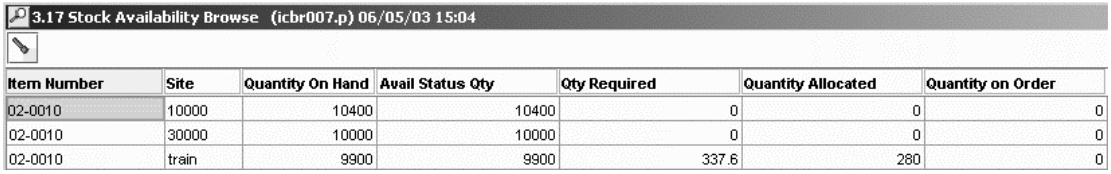
- For a date
- For an order
- Unplanned

Transaction Detail Inquiry - Inventory Data



IC-PR-330

Stock Availability Browse


3.17 Stock Availability Browse (icbr007.p) 06/05/03 15:04

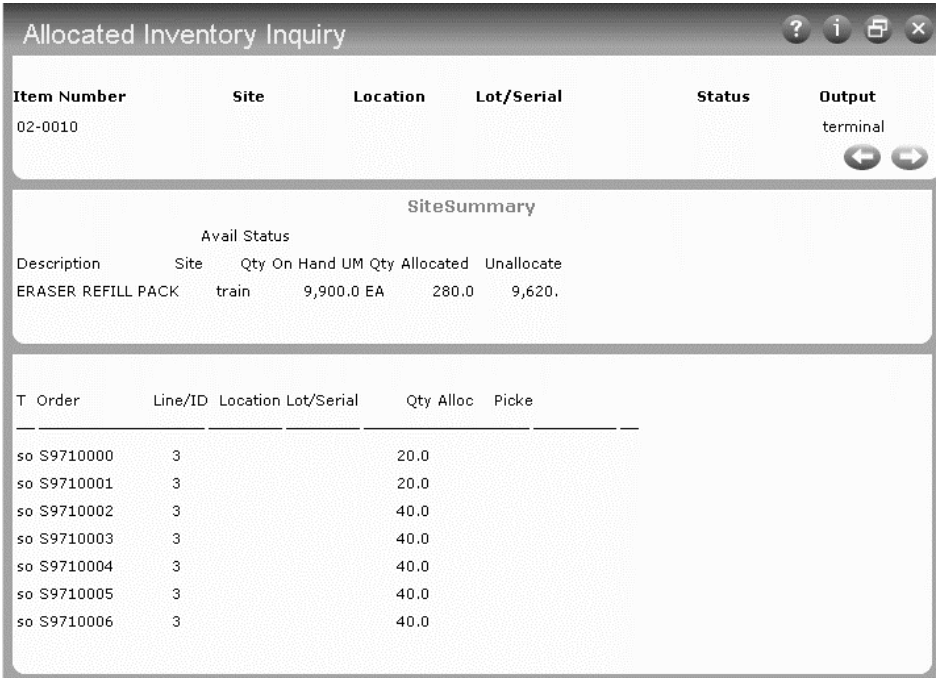
Item Number	Site	Quantity On Hand	Avail Status Qty	Qty Required	Quantity Allocated	Quantity on Order
02-0010	10000	10400	10400	0	0	0
02-0010	30000	10000	10000	0	0	0
02-0010	train	9900	9900	337.6	280	0

IC-PR-340

Stock Availability Browse

Use Stock Availability Browse to check on the availability of stock in a single site or in all sites.

Allocated Inventory Inquiry

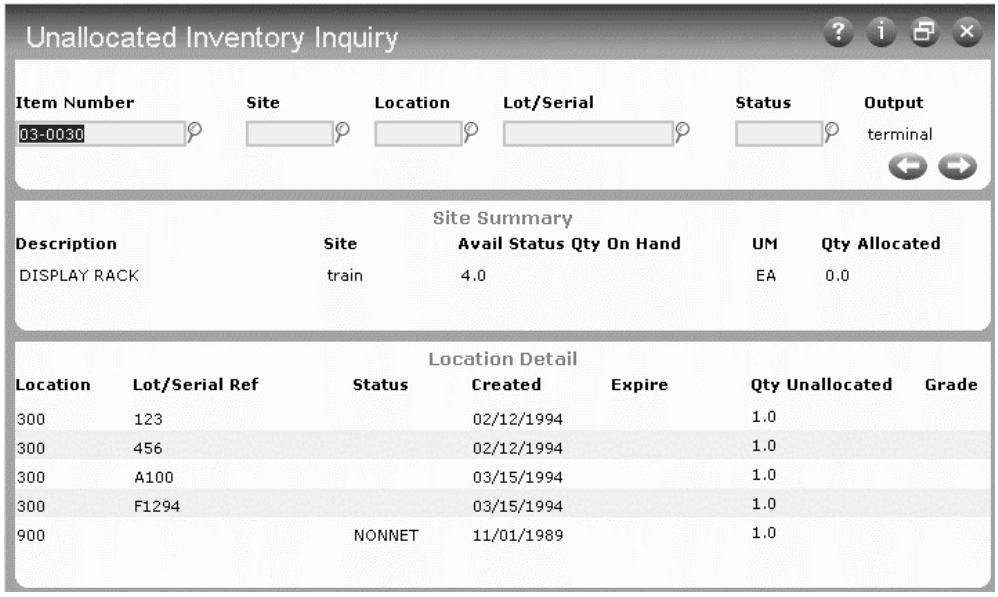


IC-PR-350

Allocated Inventory Inquiry

- Review total item quantities on hand for a site
- View allocated and unallocated quantities for an item
- Allocated quantity detail information includes:
  - Type of order (sales order or work order)
  - Order number
  - Quantity allocated
  - If it is a detail (Picked) or a general (Qty Alloc) allocation

Unallocated Inventory Inquiry

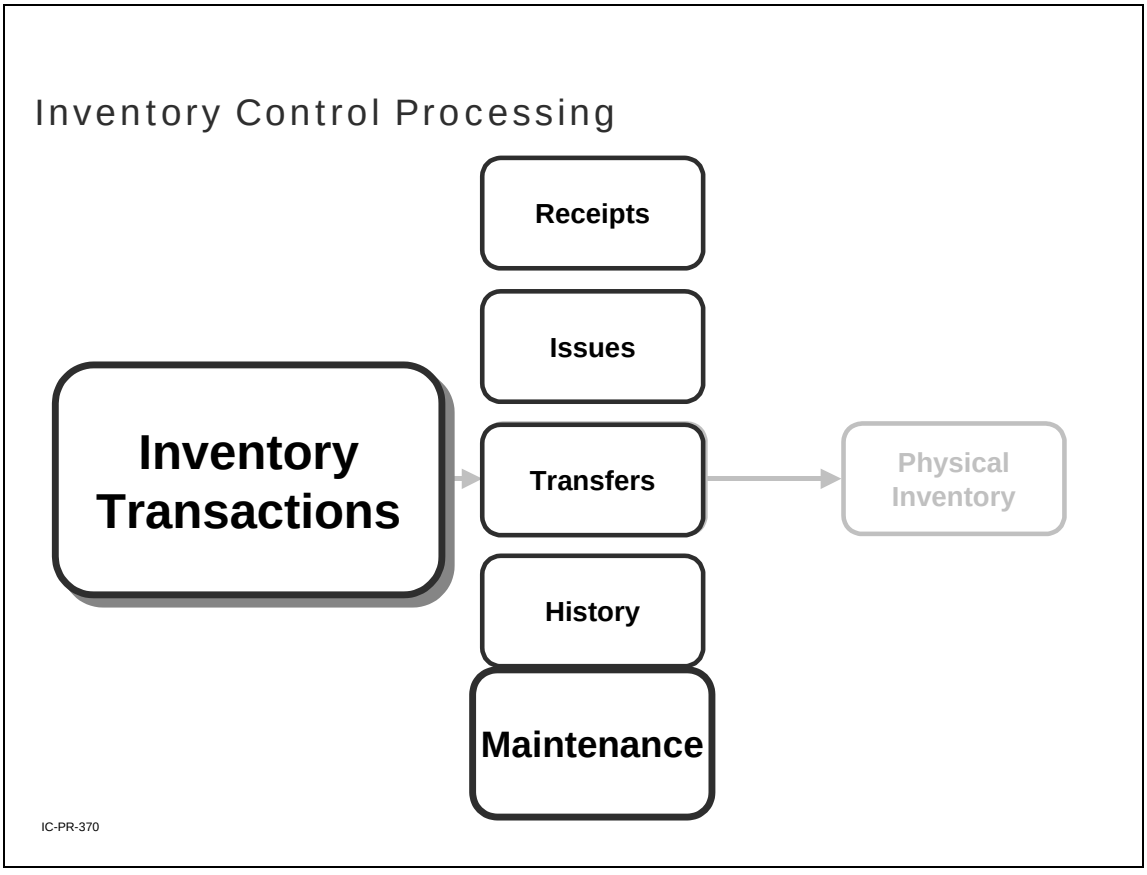


IC-PR-360

Unallocated Inventory Inquiry

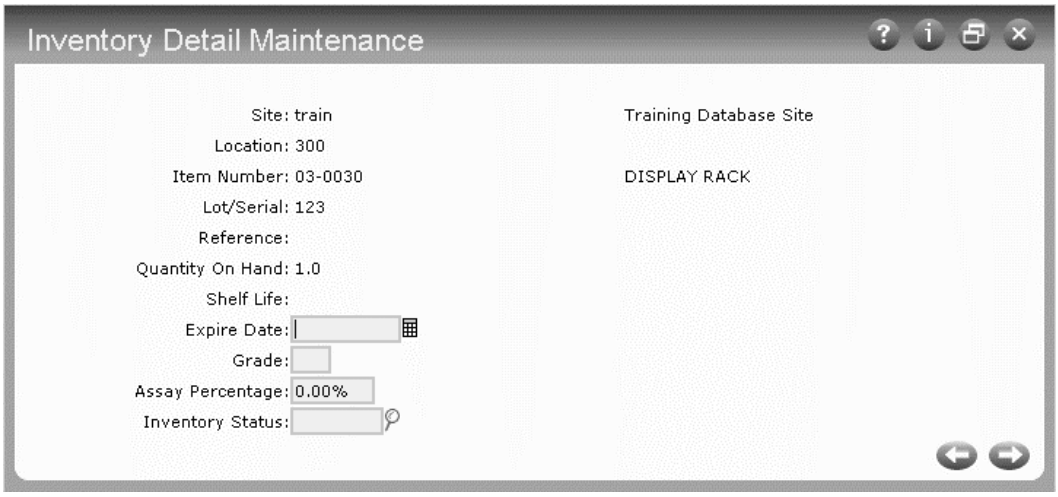
- Review non-detail-allocated inventory for a specified item
  - Site information shows quantity on hand and quantity allocated
  - Location information shows unallocated quantity for the location
- View expiration date and grade

Note Unallocated quantity can include quantities reserved by general allocations.



Inventory Transactions – Maintenance

Inventory Detail Maintenance



IC-PR-380

Inventory Detail Maintenance

- Review and modify the attributes of items held in inventory at a particular site and location
  - Expire Date
  - Grade
  - Assay%
  - Inventory Status
- Three ways to assign inventory attributes
  - Preset using attribute default settings
  - Set at the time of receipt using the Chg Attributes field in receipt functions
  - Modify using:

Inventory Detail Maintenance

Detail Maintenance by Item/Lot

Multi-Lot Inven. Detail Update

- Separate inventory attributes are stored for each combination of
  - Site
  - Location
  - Item number
  - Lot/serial
  - Reference

Note This function changes inventory attributes for a specific Item Number at a particular Site and Location and should be password controlled.

Detail Maintenance by Item/Lot

IC-PR-390

Detail Maintenance by Item/Lot

- Review and modify inventory attributes of a particular Item Number and/or Lot/Serial
- Use Site, Location, and Ref to further classify selections

Note This function should be password controlled.

Activity: Inventory Transactions

Instructions: In this section, we will practice entering unplanned inventory transactions and review inventory balances and transaction history.

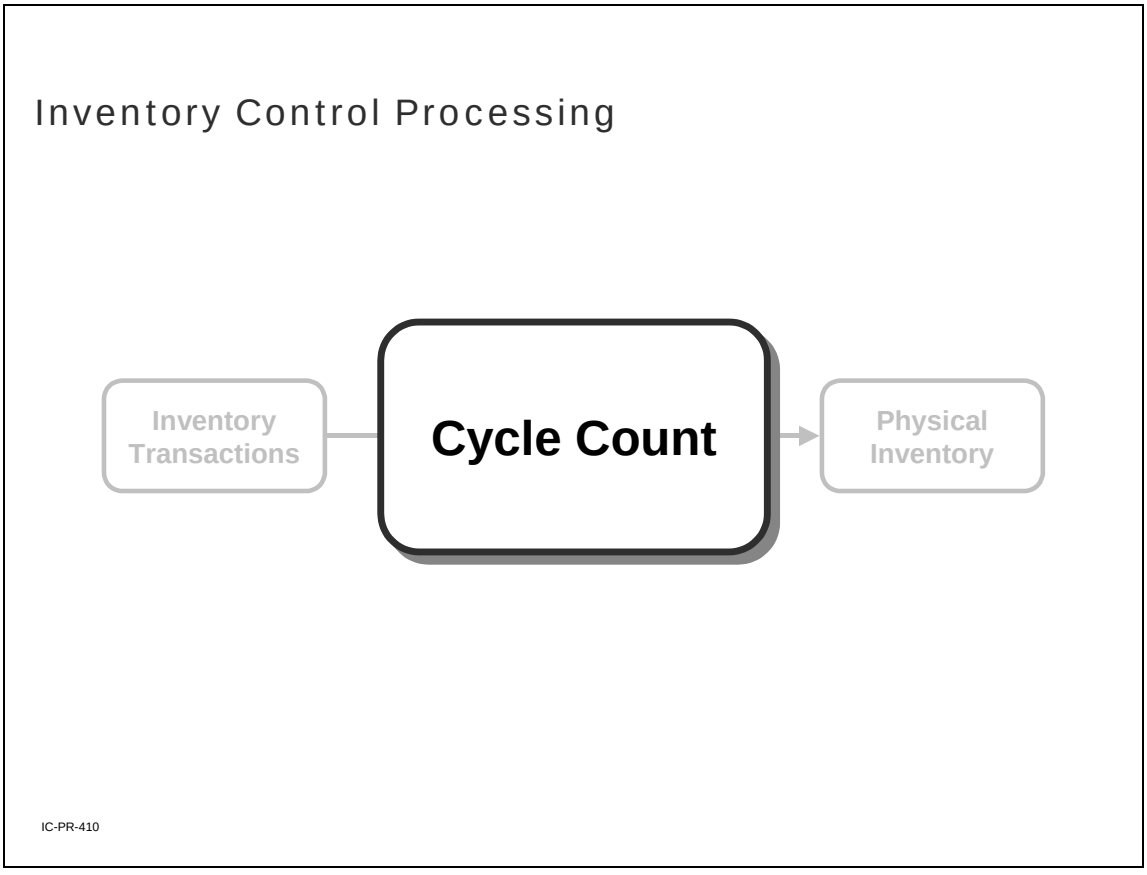
1 Use Receipts -Unplanned to enter the opening on-hand balances for each of the following items at site train:

Item	Quantity	Location
09-0001	10,000	100
09-0035	1,000	100

2 Use Stock Availability Browse/Inquiry to review the quantity on hand for the common components (05-0005, 05-0085, and 10-0040) at site train.

3 Using Transactions by Item Browse/Inquiry, look at the transaction history that was created by the unplanned receipt transaction. Note the Trans Type. The system automatically assigned this type.

Use Inventory Valuation Report to print an inventory valuation report for site train.

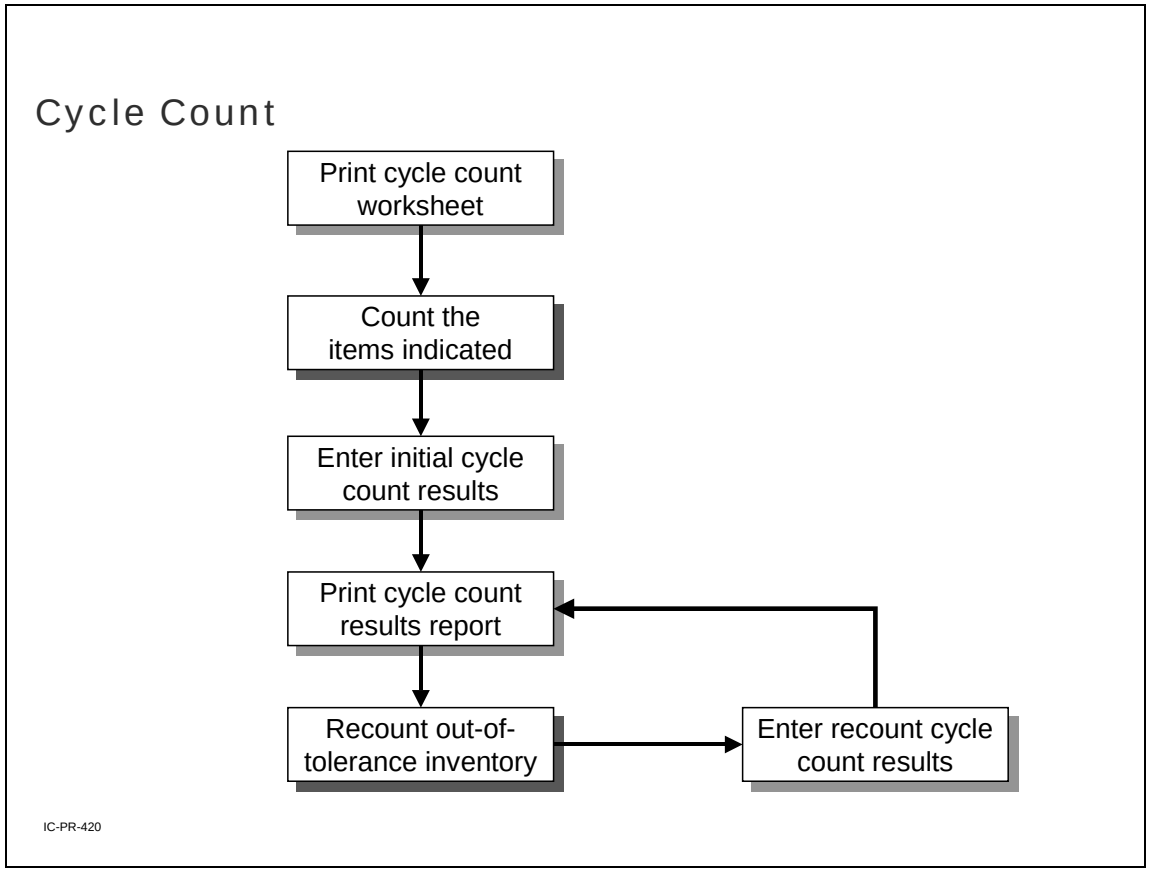


Cycle Count

A cycle count is a periodic count.

The frequency with which an item is counted is based on its ABC class.

Note Some experienced people count a few things every day in a regular cycle.



Count Frequency

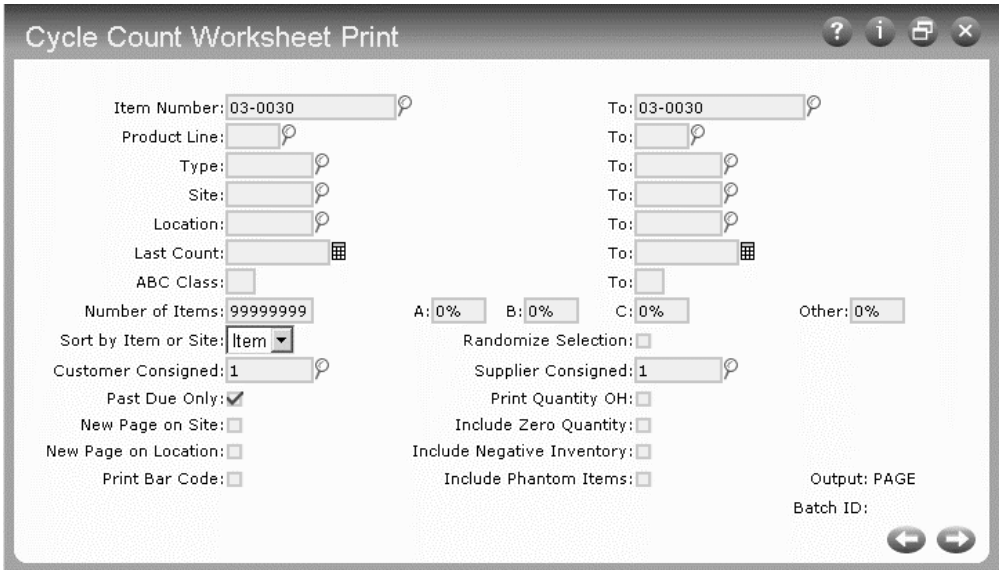
Each item has a specified count frequency.

- Whenever a count is entered, the last count date is updated
- When the item is due for another count, it will print on the worksheet

When a new count is taken, the quantity counted is entered and compared to the quantity on hand. If the new count is within tolerance, the inventory quantity on hand is updated to the count quantity. If the count is not within tolerance, the count is registered but the balance is not updated. The count has to be registered as a recount before an out-of-tolerance quantity can be forced into the system.

Before entering a recount, verify the physical count and check that all inventory transactions have been processed.

Cycle Count Worksheet Print



IC-PR-430

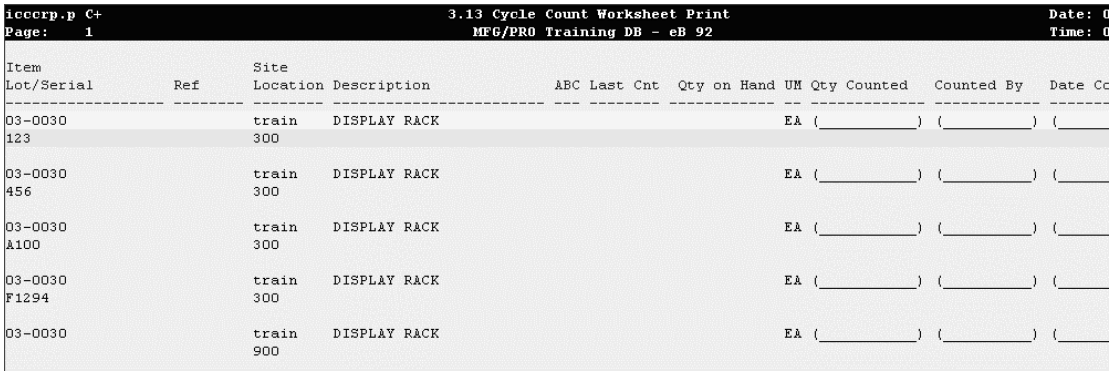
Cycle Count Worksheet Print

- Typically sent daily or weekly to the stockroom
- Cycle counts are recorded and used for Cycle Count Results Entry
- Date Counted column is reserved for the date of the physical count completed by stockroom personnel

Once printed, stockroom personnel will use the worksheet to record their cycle counts and then return it to the system operator for input.

Note It is essential that the timing of input for issues and receipts coincide with the Cycle Count Results.

Cycle Count Worksheet

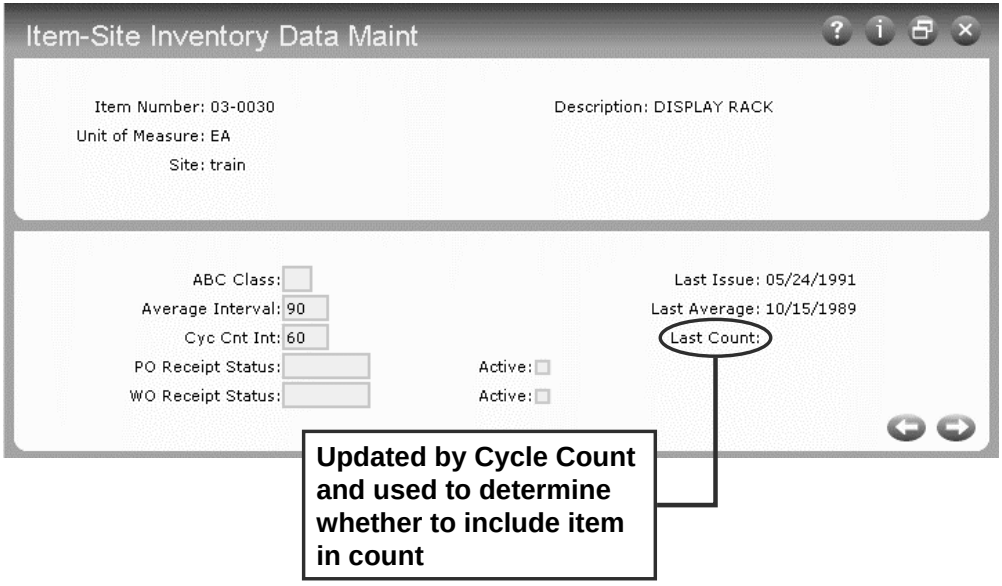


iccrp.p C+ 3.13 Cycle Count Worksheet Print Date: 0
Page: 1 MFG/PRO Training DB - eB 92 Time: 0

Item Lot/Serial	Ref	Site Location	Description	ABC	Last Cnt	Qty on Hand	UM	Qty Counted	Counted By	Date Co
03-0030 123		train 300	DISPLAY RACK				EA	(_____)	(_____)	(_____
03-0030 456		train 300	DISPLAY RACK				EA	(_____)	(_____)	(_____
03-0030 A100		train 300	DISPLAY RACK				EA	(_____)	(_____)	(_____
03-0030 F1294		train 300	DISPLAY RACK				EA	(_____)	(_____)	(_____
03-0030		train 900	DISPLAY RACK				EA	(_____)	(_____)	(_____

IC-PR-440

Item-Site Inventory Data Maintenance



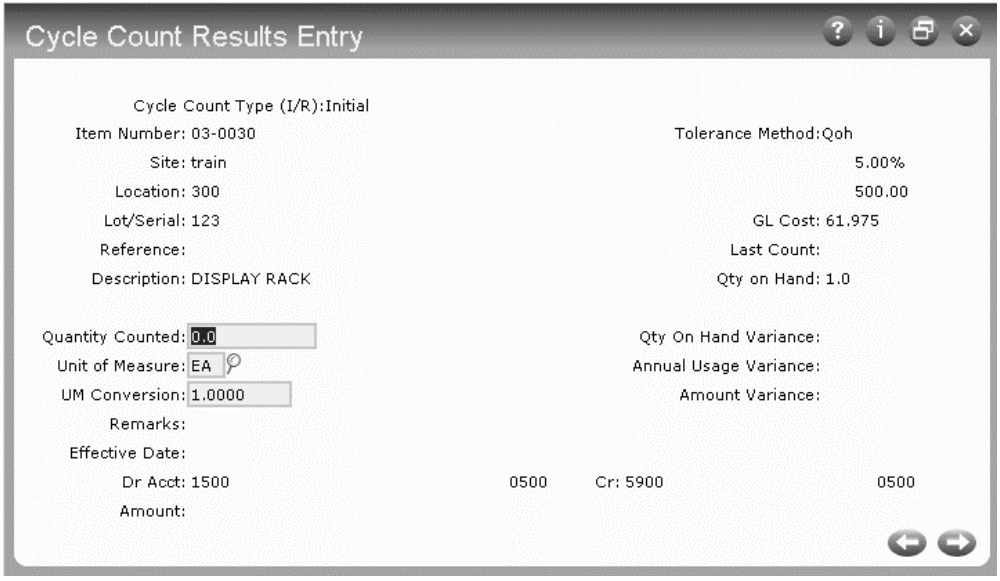
IC-PR-450

Item-Site Inventory Data Maint

Last Count

- A system-maintained field recording the last date a cycle count or physical inventory count updated a location detail record.
- The default is the system date. Last count date can be used to select items for cycle counting, either by a range of dates or past due date only.

Cycle Count Results Entry



IC-PR-460

Cycle Count Results Entry

If initial 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.

If initial count is rejected:

- Was there a data entry error? A count error?
- Did you count the right item at the right location?

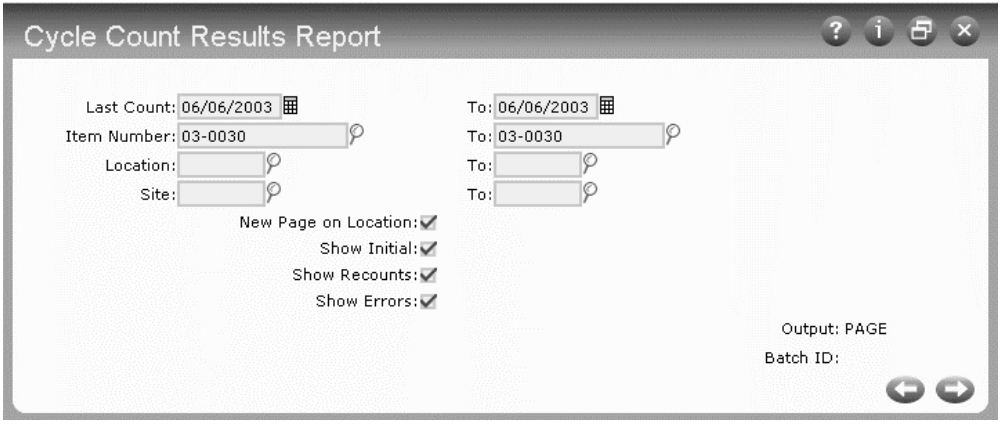
Often another physical count is taken. Enter the results as Cycle Count Type = Recount and the system changes the inventory balance to equal the number counted.

Error tolerance levels are the primary control over the cycle counting process.

- In the Inventory Control Program, you can enter both quantity and value tolerances for each ABC class, based on volume of annual usage or quantity on hand
- The count is accepted only when you enter an initial cycle count and the variance is within both the quantity and value tolerances

Override the tolerances and any location restrictions when you do a recount. Cycle Count Results Entry allows you to correct any mistake previously made.

Cycle Count Results Report



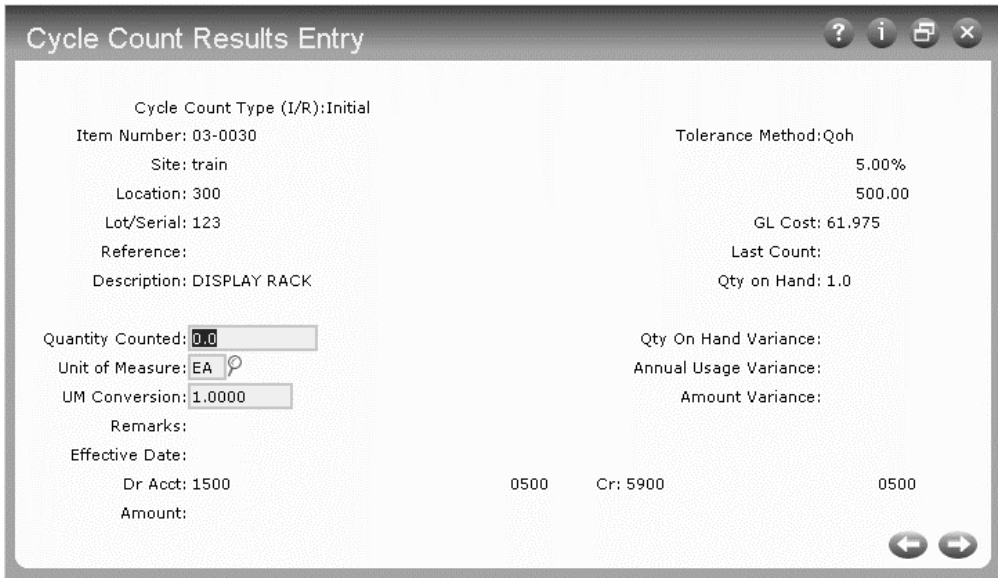
IC-PR-470

Cycle Count Results Report

Summarizes the cycle count results showing:

- Items counted
- In tolerance quantity
- In tolerance percent
- Items recounted

Cycle Count Results Entry



IC-PR-480

Cycle Count Results Entry

Error tolerance levels are the primary control over the cycle counting process.

- Override the tolerances and any location restrictions when a recount is done
- Cycle Count Results Entry allows correction of any mistake

Activity: Cycle Count

Instructions: In this activity, we will practice all of the steps involved in a cycle count. Quality Pencil Company is counting their existing pencil items. You will notice that these items already have inventory balances in your database.

1 Print a cycle count worksheet for all items and locations at site train. Set the A, B, C, and Other fields to 100 percent to make sure all items in every class appear on the printout. Next, make sure the Print Quantity OH field (near bottom) is set to Yes. Then press Go.

Use Cycle Count Worksheet Print

2 Use Cycle Count Results Entry to enter Initial count quantities as follows:

Item	Location	Qty Counted
05-0005	100	10,100
05-0085	100	10,000
09-0001	200	1,000
10-0040	100	6

3 Using Cycle Count Results Report, print the Cycle Count Results Report for site train. Identify and investigate the different counts. Which were accepted and which were not accepted? Why were some accepted and the others not accepted?

4 Use Cycle Count Results Entry and Cycle Count Results Report to enter recount quantities at the same amounts and locations as in the previous table for the initial count for items not in balance. Then reprint the Cycle Count Results Report and notice the differences between this report and the first report.

5 What should you do when a count is out of tolerance? Think of at least five things you should do.

a

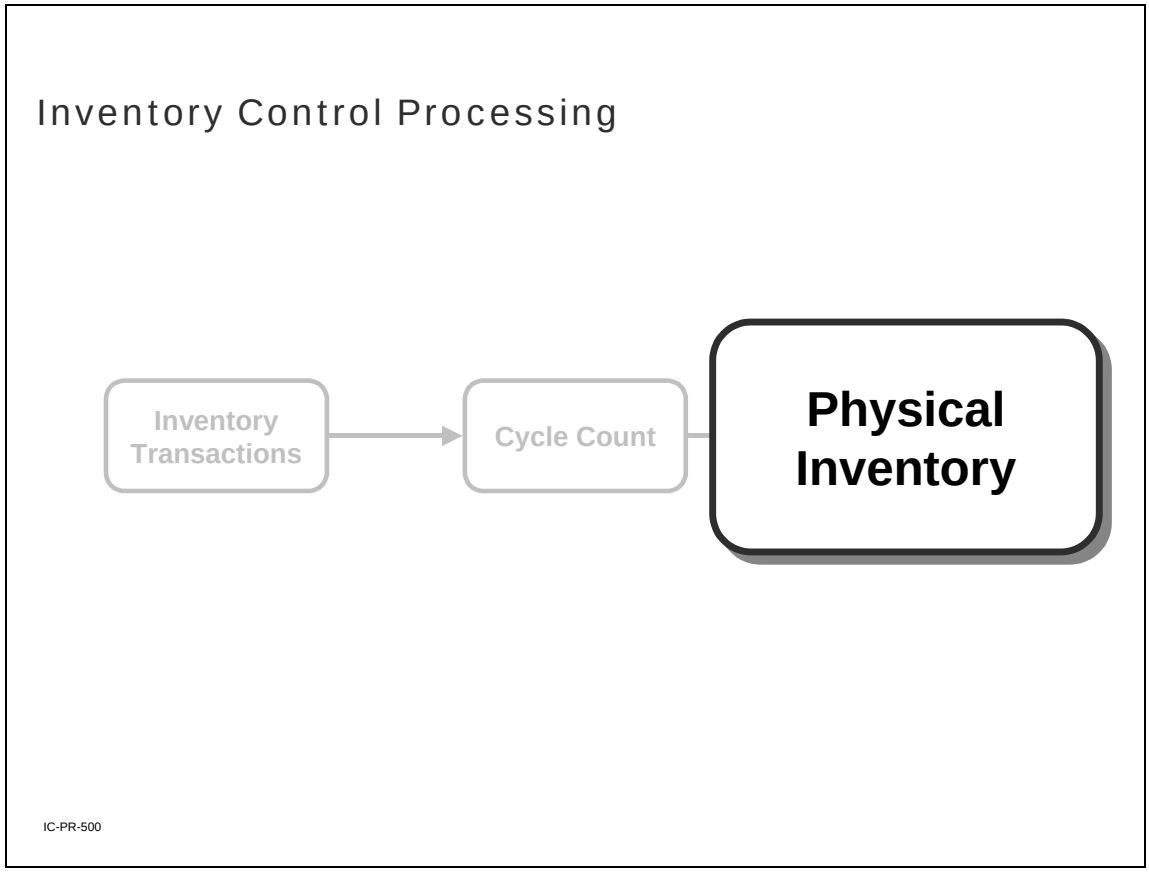
b

c

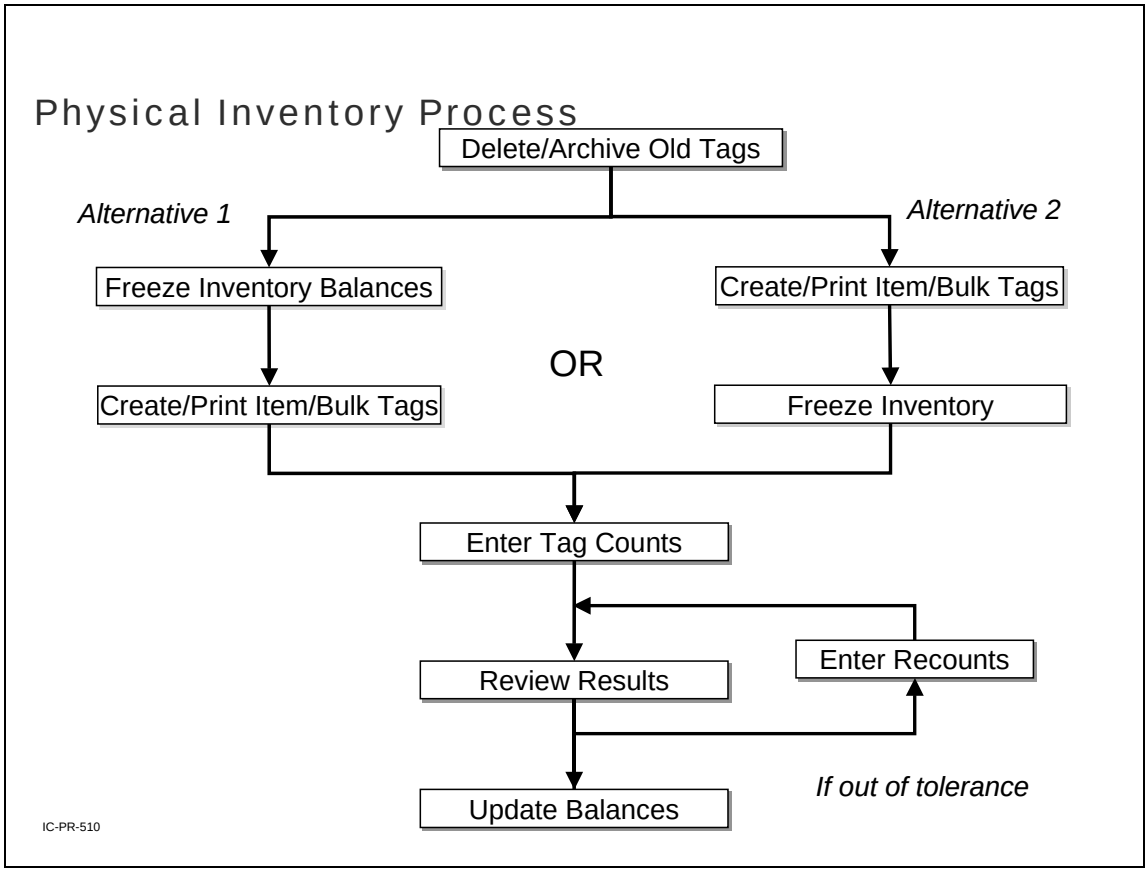
d

e

Cycle Count Results on page 182

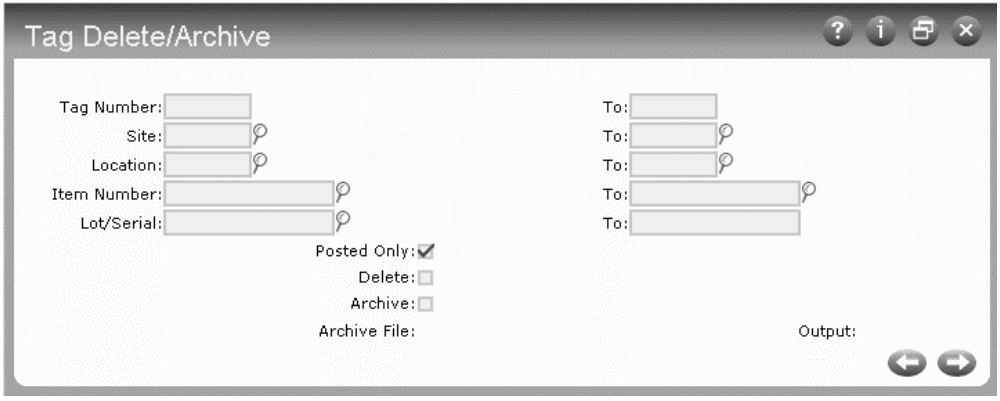


Physical Inventory



During physical inventory, production is stopped and many people are involved counting inventory. Every item is counted and there is usually no time to resolve problems associated with an incorrect balance.

Tag Delete/Archive



IC-PR-520

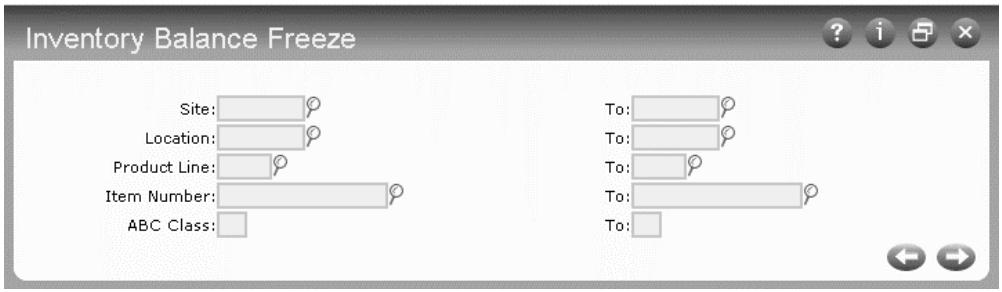
Tag Delete/Archive

Before creating new tags for the physical inventory, delete tags from the last physical inventory. Do this either after completing the physical inventory or before starting the next one. Usually you only delete tags posted using Inventory Balance Update.

Tag Delete/Archive

- Deletes specified tags
- Archives deleted tag information
- Generates a report showing all deleted tags

Inventory Balance Freeze



IC-PR-530

Inventory Balance Freeze

Freeze inventory balances before entering item counts. This makes a copy of the current quantity on hand for all selected inventory and this copy becomes the frozen inventory. The system uses the frozen inventory copy for all the physical inventory functions.

Enter outstanding inventory transactions before freezing inventory balances. Transactions that affect on-hand inventory balances can still be entered.

Suspend inventory transactions, especially during audited or year-end inventories to help ensure an accurate valuation of inventory and to simplify the audit process.

Freezing inventory does not prevent the system from processing regular inventory transactions on the quantity on hand. If you continue inventory transactions during the physical inventory, keep

track of changes in inventory. When you enter the count quantities from the physical inventory, you must also include these changes.

The system selects inventory using one or more of the following:

- Site
- Location
- Product Line
- Item Number
- ABC Class

Create/Print Tags

Create item tags from existing inventory balance records.

Use tags to verify and correct quantity balances.

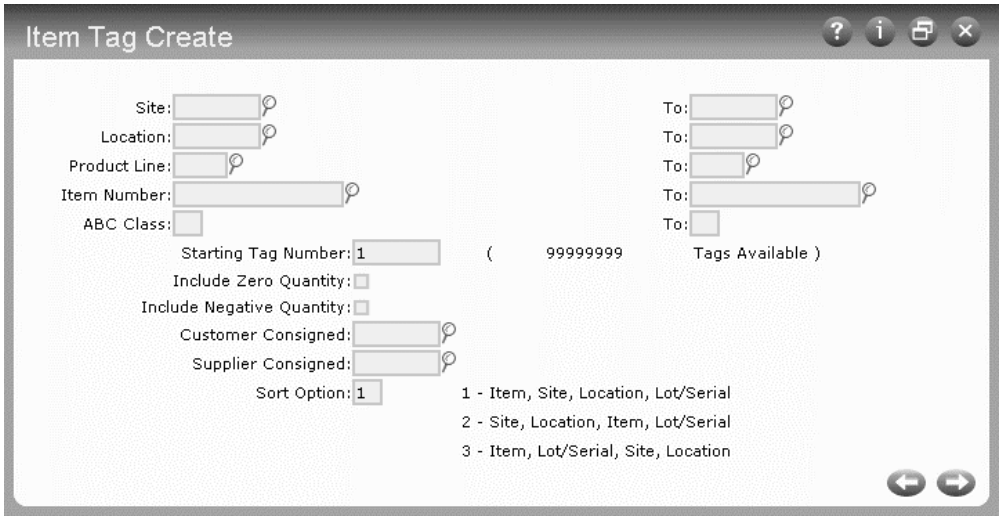
Print item tags on standard-sized forms. Default form is 3 x 5 card stock.

Create and print tags either before or after the inventory balance freeze.

If inventory transactions are entered after item tag records are created, but before inventory balances are frozen, there may be inventory detail records without corresponding item tags, and vice versa.

Use the tags to record the count information. If you need to recount an item, the recount information goes on the same tag.

Item Tag Create



IC-PR-540

Item Tag Create

Use item tags to verify and correct quantity balances.

Create tags for every item you specify. Select items by item number, site, product line, or ABC class. If you want tags for all items in the item master table, leave the selection criteria blank.

Bulk Tag Create

IC-PR-550

Bulk Tag Create

It is possible to create bulk tags that are not linked to any actual item number or location. Bulk tags are used in the event that you find an item at a location and the system has no record of it.

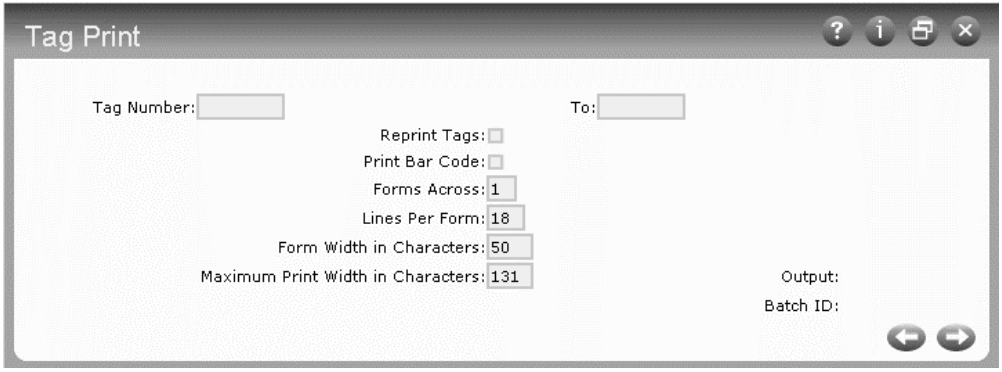
Create as many bulk tags as you need. They are identical to item tags, except the item information on the tag is blank. Use bulk tags to count items missing item tags.

- Before deleting bulk tags, void the tags using Tag Void Status Update

Use any one of the following to find out how many bulk tags you need

- Tag Inquiry
- Tag Report
- Uncounted Tag Report/Update

Tag Print

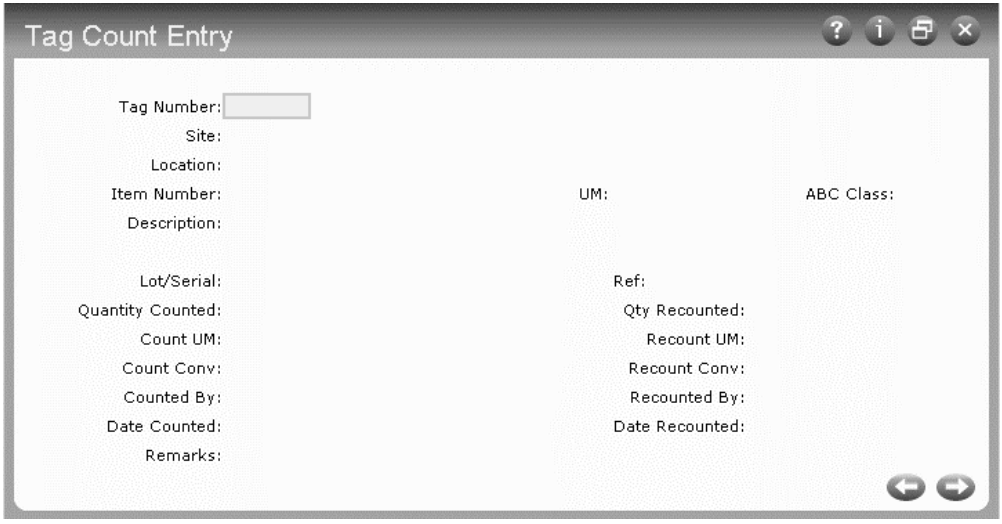


IC-PR-560

Tag Print

Use Tag Print to print both types of tags. If there is an error in the tags, delete them using Tag Delete/Archive, and create and print new tags.

Tag Count Entry



IC-PR-570

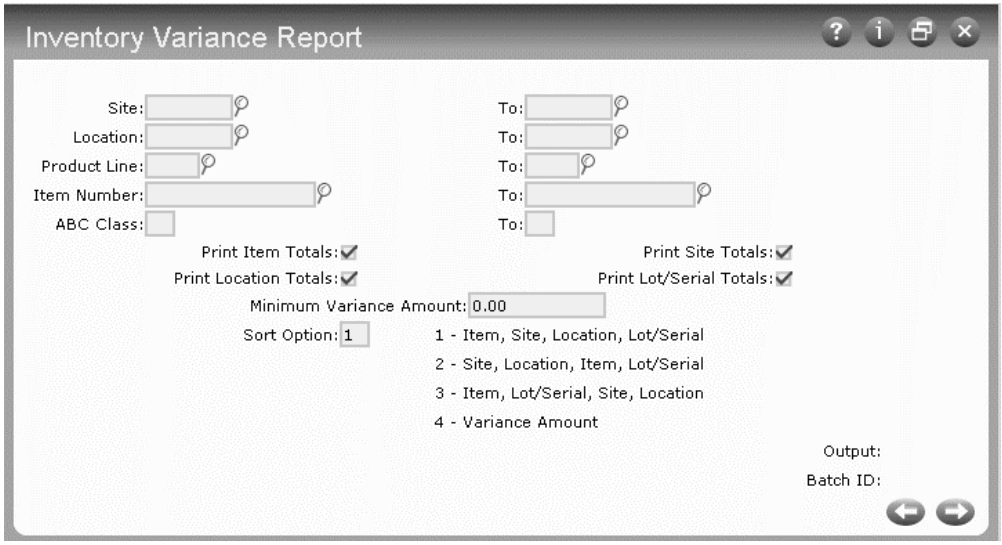
Enter Initial Tag Counts

Use to enter the tag count quantity into the system once tagged items are counted.All count quantities are accepted, even those that are out of tolerance.

Enter count quantity as of the inventory freeze. If you did not suspend inventory transactions after the freeze, you must take into consideration any inventory transaction activity occurring after it to ensure an accurate count total.

Action	Quantity
Frozen inventory quantity as of 9/30	100
Issue quantity on 10/1	50
Count quantity on 10/2	47
Count quantity entered 10/2 (47+50)	97

Inventory Variance Report



IC-PR-580

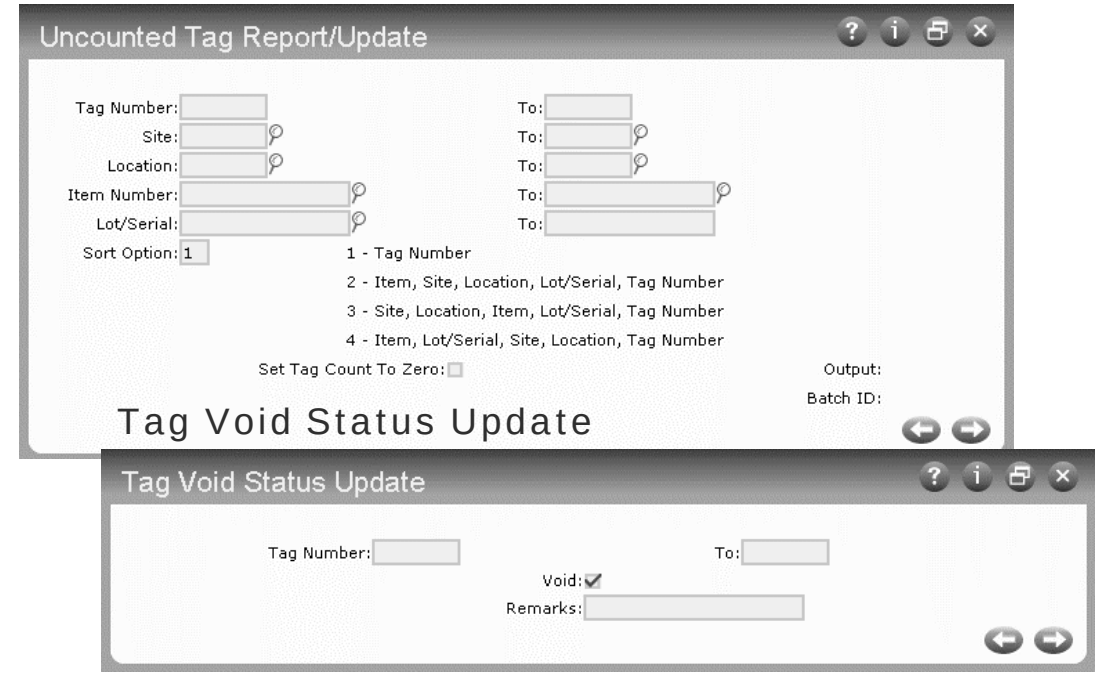
Review Results

Before updating inventory balances review the following:

- Inventory Variance Report, which flags out of tolerance counts
- Uncounted Tag Report/Update, which reviews any tags that have not had counts entered for them
- Tag Void Status Update
  - Uncounted tags should have a count entered or be voided
  - The physical tag should be physically destroyed if voided

For items replaced by bulk tags, enter a count of zero to prevent the system from recording a double balance when the bulk tag count is entered.

Uncounted Tag Report/Update



IC-PR-590

Void/Zero Count Unused Tags

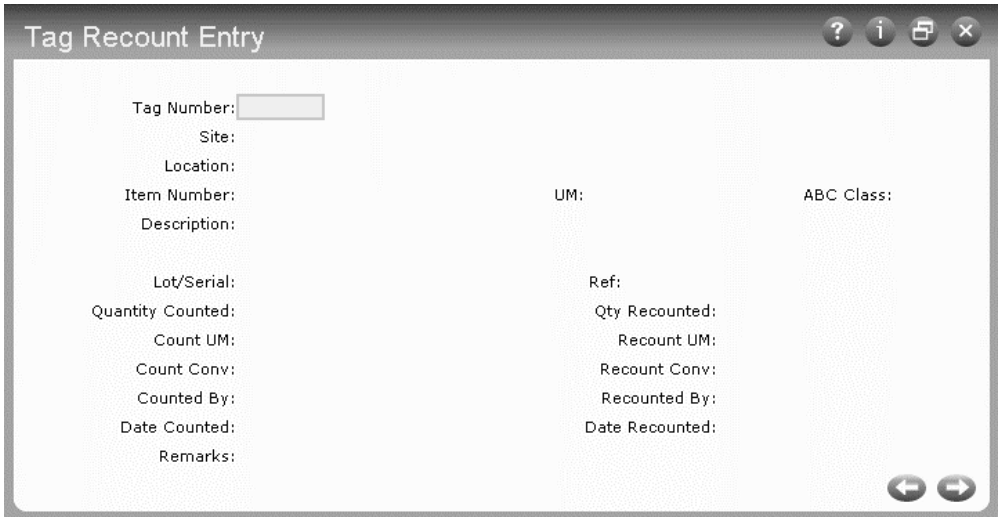
Make sure all item and bulk tags are accounted for after completing the physical inventory count.

Identify any tags not counted or voided using Uncounted Tag Report/Update. This report only shows tags that have not been voided or set to zero.

You may have leftover item tags either because the items were not found or they were counted using bulk tags. These cannot be voided. You need to enter a quantity of zero for the item tag using Uncounted Tag Report/Update with the Set Tag Count to Zero option set to Yes.

Any bulk tags that you are not going to use must be entered as void. Do this using Tag Void Status Update. Only bulk tags with a void status can be deleted.

Tag Recount Entry



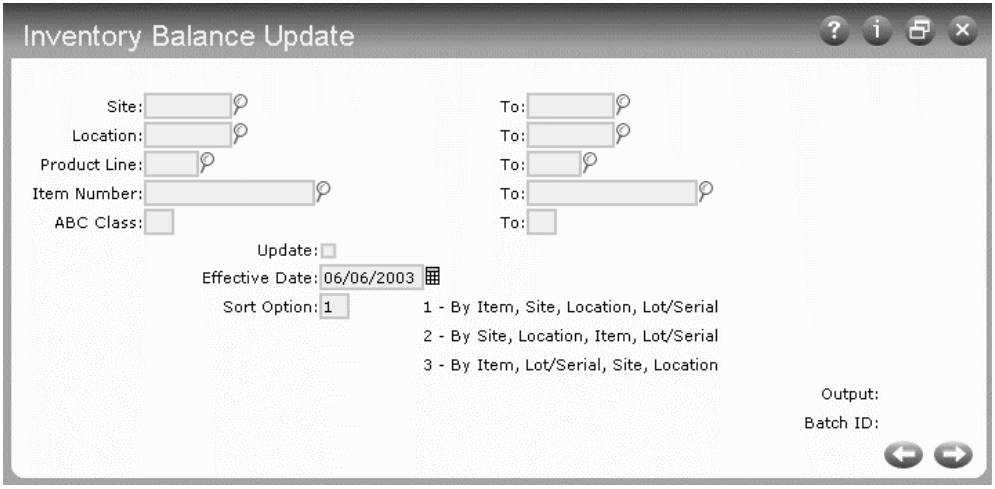
IC-PR-600

Tag Recount Entry

Once you enter the initial tag count, it can only be changed using Tag Recount Entry. You can change the count as many times as you like, until Inventory Balance Update is run.

- Enter item tags created in Item Tag Create, then enter Qty Counted
- For bulk tags, enter the tag number and Site and Location

Inventory Balance Update



IC-PR-610

Inventory Balance Update

Once all bulk and item tags have been accounted for, update the actual inventory balances. Item quantity on-hand is updated with the difference between the frozen quantity and the count quantity.

This is a critical step. Performing this function updates on-hand inventory balances. Be sure all counts:

- Are correct as of the “freeze” date
- Include any inventory transactions that occurred after freezing the inventory balances

Inventory Control Processing Summary

IC-PR-620

Important The data used in these exercises may not be the same as the data shown in the screen captures in this lesson.

Activity: Physical Inventory

Instructions: In this activity, we will practice all of the steps involved in a physical inventory count. Once again, we will count the pencil items that already exist in the database.

1 Using Inventory Balance Freeze, freeze the inventory balances for site train. Leave the screen blank for all items and press Go. Note that you can do this before or after you print tags.

2 Use Item Tag Create to create count tags in site train for the items in product line 1000 for item numbers 02-0005 through 04-0005. Set the Include Zero Quantity field to Yes.

3 Starting Tag Number is a system-maintained field that does not need to be modified. Using Bulk Tag Create, create two bulk tags.

4 Use Tag Print to print the tags. Notice the sequence in which the tags print.

5 Enter the following counts using the appropriate tag numbers:

Item	Qty Counted	Location	Date Counted
02-0010	20,000	200	<today's date>
02-0020	10,100	200	<today's date>
04-0005	10,000	100	<today's date>

Use Tag Count Entry

6 During the course of the physical inventory, you find 1,000 assembled pencils (04-0005) in a box at site train, location 200. Use a bulk tag to record the count for this new item location.

Use Tag Count Entry

7 Using Inventory Variance Report, print the Inventory Variance Report for site train. Identify items to be recounted.

8 Enter the recount amount 10,000 for item 02-0010 and 1,000 for item 04-0005. Date Recounted = today's date.

Use Tag Recount Entry

9 Using Inventory Balance Update, update inventory balances for the items counted. You must specify Yes in the Update Inventory field.

10 Use Stock Availability Browse/Inquiry to review the new inventory balances for items in product line 1000. The inventory quantity on hand will be updated to the count amount.

11 Scroll through the transactions created by the physical inventory update.

Use Transactions Detail Inquiry

For additional exercises, workshops, and study questions:

See in this training guide: *Workshops and Study Questions* on page 177.

Summary

- ✓ Introduction to Inventory Control
- ✓ Business Considerations
- ✓ Set up Inventory Control
- ✓ Process Inventory in MFG/PRO

IC-PR-640

Course Overview

APPENDIX A

Workshops and Study Questions

Study Questions

1 When ABC classes are calculated by the system, they can be calculated based on

_____ or _____ and _____ or _____ .

2 Receipts – Unplanned do not affect Average Sales or Average Issues.

True or False

3 List three places where the location entered on the item master is used.

4 Shelf life is accessed whenever inventory is received, automatically setting the expiration date of the inventory.

True or False

Why?

5 What picking logic options are available? (List all four.)

6 Briefly describe how Issue Days affects picking?

7 ABC Class, Lot/Serial Control, and Shelf Life may be different for the same item at different sites.

True or False

Why?

8 Inventory status codes are used to designate whether inventory is Available, Nettable, and subject to Overissues. Transactions can also be restricted for certain types of inventory. Indicate what the settings should be for each of the following types of inventory:

Inventory Type	**Available**	**Nettable**	**Overissues**	**Restrictions** (if any)
Raw Material Items				
Lot controlled items				
Scrap and Reject				
Waiting for Rework				
Toxic Waste				
Incoming Inspection				

9 When you froze inventory for a physical count, the inventory balance for a particular item was 150 units. After the freeze, someone processed a receipt for 25 and an issue for 42 that accrued prior to the freeze. The person who conducted the inventory physically counted 135. What should they enter as the physical inventory count? (Circle the correct answer and explain why.)

108 118 133 135 150 152 175

10 Count tolerances set up in the Inventory Control program apply to all items at all sites in the database, and are used by both cycle counting and physical inventory.

True or False

Workshop

Instructions: Set up a couple of new items and test out the inventory transactions.

Set up three new items. Make one lot controlled, one serial number controlled, and one neither lot nor serial number controlled. Put a shelf life on one of the items.

1 What transaction would you use to enter beginning inventory balances for these items?

Menu Name:

2 Enter a beginning inventory balance of 20 units of the lot-numbered item with 5 units of Lot 9301004, 12 units of Lot 9301005, and 3 units of Lot 9301006. What field did you have to set to do all this in one transaction?

Field Name:

3 Enter a beginning inventory balance of five units of the serial numbered item, numbered starting at serial number A4201JJ001-F. Do not type in all the numbers; let the system generate all five numbers for you. What numbers did it generate?

4 Enter a quantity of 100 units of the last item. Put 80 in the regular stock location and put 20 in inspection. What inventory status should be assigned to the items in inspection?

5 Transfer one lot of your lot-numbered items into a different inventory location. What transaction history was maintained?

6 Change the expiration date, assay, grade, or inventory status for this item. What transaction history was maintained?

7 What if you needed to change a lot or serial number of existing inventory. What transaction would you use?

Menu Name:

8 Print a Cycle Count Worksheet for your items. Enter an initial count of 800 units of the non-lot/serial controlled item. What happened?

9 Enter a recount for 800 units. What happens now? (List two effects.)

10 Freeze inventory balances for your items and print count tags. Count a different amount or count a different lot/serial number. Print the error reports; then run the Physical Inventory Update function. What happens? Check the results by looking at the Inventory Details for your items. Explain the results.

Answers

Cycle Count Results

When count is out of tolerance, you should check for:

- Correct location
- Correct lot/serial number
- Correct site
- Correct item number
- Unprocessed transactions
- Activity since count
- As a last resort: perform physical recount

Study Questions

1 When ABC classes are calculated by the system, they can be based on SALES or ISSUES and COST or GROSS PROFIT.

2 True. For this reason, it is wise to use the Unplanned Receipt transaction to initialize opening inventory balances.

3 Three places where the location entered on the item master is used:

a The item location displays as the default on all inventory transactions (issues/receipts) for this item, but you can override it.

b It also displays on sales orders as the default location to ship from.

c If the Inspection Required flag is No on the item, it also displays on purchase orders as the default receiving location. This location is also the default location from which inventory is backflushed, unless you set up to backflush from the line (work center).

4 True. Expiration date is set automatically as the receipt date plus the shelf life.

5 The four ways picking can be done by: Location, Lot/Serial, Date, and Expire Date.

6 Issue days controls the picking of items about to expire. For example, if Issue days is 10, then any inventory due to expire in the next 10 days will not be picked.

7 False. ABC class can be different by site, but if an item is lot/serial controlled or has a shelf life, this applies to all sites.

8 These types of inventory should be assigned status codes as follows:

Inventory Type	Available	Nettable	Overissues	*Restrictions
Raw Material Items	Yes	Yes	Yes/No	None
Lot controlled Items	Yes	Yes	No	None
Scrap and Reject	No	No	Yes/No	ISS-SO, ISS-WO
Waiting Rework	No	Yes/No	Yes/No	ISS_SO
Toxic Waste	No	No	No	ISS-SO, ISS-WO
Incoming Inspect	No	Yes	Yes/No	None

Note The restricted transaction list can include other transactions; this is just an example.

9 152. The physical count of 135 should be increased by quantity issued since the freeze (-42) and decreased by the quantity received (+25). When the count of 152 is used to update inventory, it will add two to inventory (the difference between the frozen value of 150 and the 152 counted). This is correct, since we should have had 133 (150 + 25 - 42) but we in fact counted 135. We found two extra.

10 True.

Workshop Questions

For setup you should have set Lot/Serial to L for lot control, S for serial control, and blank for neither.

1 You should always use Receipts – Unplanned to initialize opening balances.

2 Use the Multi field to enter multiple lot/serial numbers, sites, locations, or lot references all on one transaction.

3 Serial numbers should be A4201JJ001-F, A4201JJ002-F, A4201JJ003-F, A4201JJ004-F, and A4201JJ005-F. Note that the system increments the last number string it finds.

4 The inventory status for inspection is probably DOCK or any other that is set up as Available No and Nettable Yes.

5 Transaction history keeps an ISS-TR and a RCT-TR transaction, maintaining complete traceability.

6 Transaction history keeps an ISS-CHL and a RCT-CHL transaction, maintaining complete traceability.

7 Transfer With Lot/Serial Change is the only function that can be used to change a lot or serial number, since this maintains traceability.

8 The system records the count, but does not update inventory.

9 The recount updates inventory and creates a GL transaction to increase inventory value.

10 Discuss error finding with class.

APPENDIX B

Inventory Control Reports

Inventory Control Menu 3

Menu #	Report	Function/Purpose
3.2	Inventory Detail by Item Inquiry/Browse	Displays an item's total nettable and non-nettable inventory in order by site. Item location information is also shown.
3.3	Inventory Detail by Site Inquiry/Browse	Shows the total quantity on hand by site ordered by item number. Location information is also shown.
3.15	Cycle Count Results Report	Summarizes the cycle count results showing items counted, in tolerance quantity, in tolerance percent, and items recounted.
3.17	Stock Availability Inquiry/ Browse	Shows the availability of stock in a single site or in all sites.
3.18	Allocated Inventory Inquiry	Displays total item quantity on hand in a site. Also shows allocated quantity and unallocated quantity totals for the item. Detail information is given for the allocated quantity showing type of order (sales order or work order), order number, quantity allocated, and if it is a detail (Picked) or a general (Qty Alloc) allocation.
3.19	Unallocated Inventory Inquiry	Lists inventory not detail-allocated for a specified item at the site and location levels. Site information shows quantity on hand and quantity allocated. Location information shows unallocated quantity of this item at that location. Expiration date and grade are also shown. Unallocated quantity can include quantities reserved by general allocations.

Inventory Detail Menu 3.1

Menu #	Report	Function/Purpose
3.1.13	Inventory Detail by Lot Inquiry	Displays inventory detail information for a particular Lot/Serial number. Specify an item number, site, location, and/or inventory status to further define the inquiry.

Inventory Reports Menu 3.6

Menu #	Report	Function/Purpose
3.6.1	Stock Status Report	Displays an item's total quantity on hand and quantity on order by site. Gives information for each location containing the item.
3.6.2	Reorder Report	Shows all locations containing an item and flags those below reorder point or below safety stock. Open orders for the item, the quantity open, and the supplier name are also shown.
3.6.3	Item ABC Status Report/Update	Lists items in descending sales or issue value, depending on the option selected. Shows item's old and new ABC classifications. ABC class codes, item average usage, and cycle count intervals can be updated for existing records.
3.6.5	Inventory Detail Report	Shows inventory availability status in detail or summary format. Lists item inventory information for a site and for each location containing the item. The summary information only shows information for a site.
3.6.6	Inventory Detail by Location	Lists item quantity on hand and item characteristics, (expire date, grade, assay%, inventory status). Shows inventory control status (available, nettable, overissue) of an item in a location.
3.6.8	Current Surplus Inventory Report	Lists current surplus quantities and GL value by product line within a site in a detail or summary format. Totals are shown for expired value and value on hand, by site and for the report.
3.6.9	Projected Surplus Inventory	Lists projected surplus inventory for a future effective date, based either on MRP requirements or average use. Summary or detail format.
3.6.13	Inventory Valuation Report	Shows value of inventory in a site by product line or item number. Includes total value of each item and a grand total for the product line.
3.6.14	Inventory Valuation by Location	Shows value of inventory in each location of a site by product line or item number. Includes total value of each location and a grand total for the site.

Inventory Reports Menu 3.6

Menu #	Report	Function/Purpose
3.6.15	Inventory Valuation as of Date	Displays the value of all items in a product line as of a user-specified date. Shows total inventory in each site and a grand total for product line. If Accept Initial Zero Cost = Yes, displays last GL cost for all items in effect on *as-of* date specified. If Accept Initial Zero Cost = No, displays first GL cost for items with zero cost on or before *as-of* date.
3.6.16	Inventory Valuation as of by Loc	Shows value of inventory in each location of a site on a user-specified date. Shows total value of each location and a grand total for the site. If Accept Initial Zero Cost = Yes, displays last GL cost for all items in effect on *as-of* date specified. If Accept Initial Zero Cost = No, displays first GL cost for items with zero cost on or before *as-of* date.

Lot/Serial Number Menu 3.22

Menu #	Report	Function/Purpose
3.22.1	Lot Transactions by Date Inquiry/Browse	Lists inventory transactions for an item ordered by date.
3.22.2	Lot Transactions by Tran Inquiry/Browse	Shows inventory transactions for an item ordered by transaction number.
3.22.3	Lot Actual Bill Inquiry	Displays components used to make a lot/serial controlled item.
3.22.4	Lot Where-Used Inquiry	Lists all top-level items containing a lot/serial numbered component.

Menus 3.16 and 3.21

Menu #	Report	Function/Purpose
3.16.8	Tag Inquiry	Shows how many bulk tags are needed.
3.16.13	Tag Report	Shows how many bulk tags are needed.
3.16.14	Counted Tag Report	Displays only those tags that have not been voided or set to zero.
3.16.15	Uncounted Tag Report/Update	Shows how many bulk tags are needed.
3.16.16	Frozen Inventory Valuation Report	Displays data about inventory that has been frozen. Information can be sorted using several options.
3.16.17	Tag Inventory Valuation Report	Displays data which can be sorted using several different options.
3.16.18	Inventory Variance Report	Displays count results. Look for out-of-tolerance quantities or other problems. You can print the report by variance amount.
3.21.1	Transactions Detail Inquiry	Displays detailed inventory transaction history records ordered by transaction number.
3.21.2	Transactions by Item Inquiry/ Browse	Lists inventory transaction history for an item number ordered by transaction date, starting with the most recent.
3.21.13	Transactions by Order Report	Shows inventory transaction history by sales order or work order number.
3.21.14	Transactions by Item Report	Lists inventory transaction history by item number.
3.21.16	Transactions Accounting Report	Displays the costed GL transactions created for each transaction.
3.21.17	Average Cost Accounting Report	Lists selected transactions involving average cost computations.

APPENDIX C

General Ledger (GL) Effects in Inventory Control

General Ledger Effects

GL Consequences Default Accounts

Transaction	Debit Acct Sub-Acct/CC	Credit Acct Sub-Acct/CC
Unplanned Receipt	Inventory	Purchase Expense
Unplanned Issue	Cost of Production	Inventory
Sales Return	Inventory	Sales Returns
Return to Supplier **(Inv. Items)**	PO Receipts	Inventory
Return to Supplier **(Non-Inv. Items)**	Purchase Expense	Inventory
Return to Stock	Inventory	Cost of Production
Receipts-Backward	inventory	Work In Process
	Work In Process	Inventory
	Work In Process	Labor
	Work In Process	Burden
	Work In Process	WO Variance
Cycle Count Adjustment	Inventory	Discrepancy

IC-GL-010

GL Consequences of Inventory Transactions

Any inventory transaction has an effect on GL. It is important to know what those effects are, particularly with unplanned issues and receipts. The default accounts used are listed in the previous chart.

Sometimes, however, a transaction is used for other than the usual reason or affects accounts other than the normal. In those cases, it is up to the person making the transaction to be sure that the correct GL account is used. An example might be that a batch of ink concentrate is contaminated. The unplanned issue transaction default would have to be modified to debit the scrap account, not the cost of production.

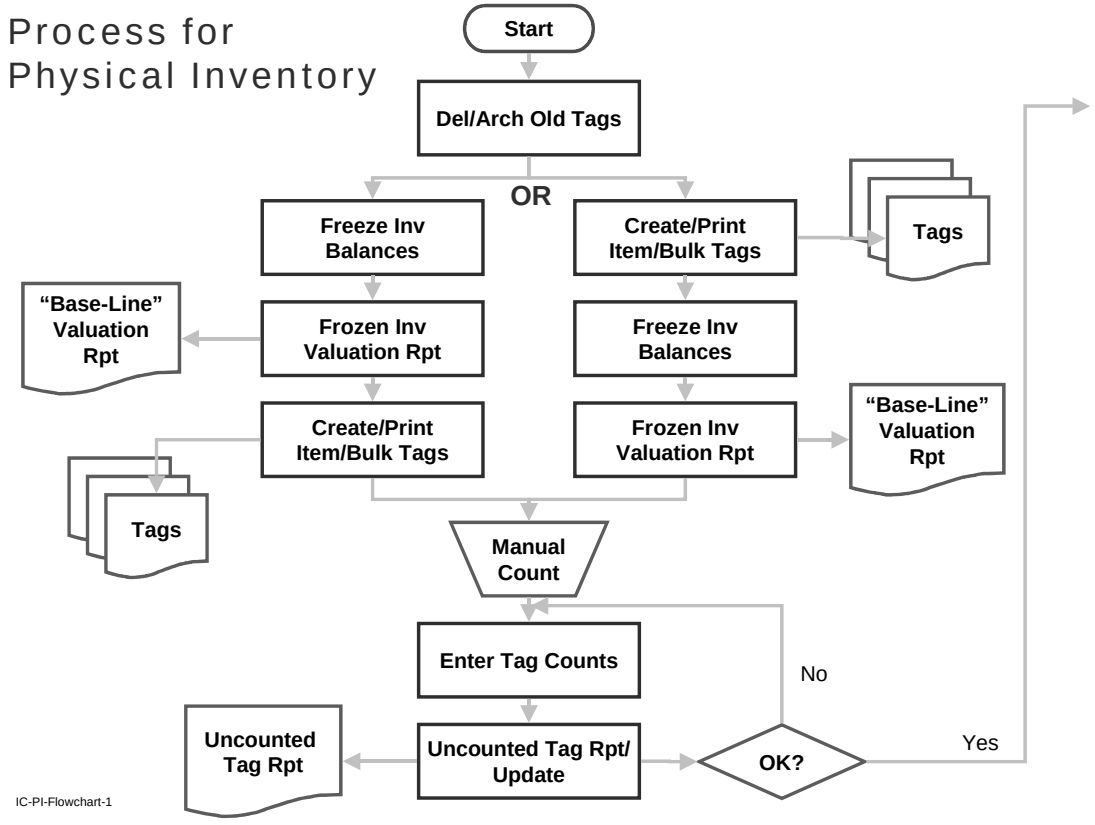
A location transfer does not affect GL unless the items are transferred between sites or GL entities, or locations with different accounts defined in Inventory Account Maintenance. The value of inventory has not changed, only its position has changed.

Transactions in other modules, such as sales order shipments or purchase receipts, do create GL transactions.

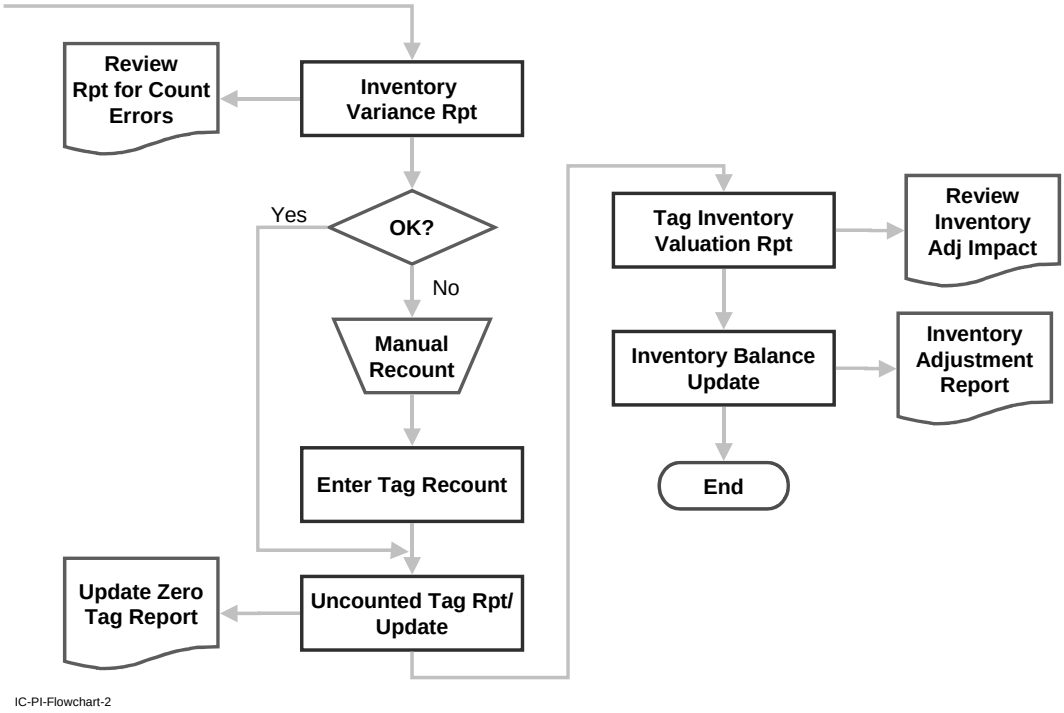
APPENDIX D

Physical Inventory Process Flowchart

Process for Physical Inventory



continued



Index

Your Feedback Is Important To Us

Please take a few minutes to complete and return this feedback sheet. It will help us to improve the quality of our training materials. For your convenience, you can also download this form from our web site. After you have completed the form, return it to us by fax: (856) 840-2612, or send your comments to us by email.

Web site: http://www.qad.com/services/learn
Email: learningservices@qad.com

Training Guide: Inventory Control /
Item number: 70-2853A

How would you rate the quality of this training guide?

Organization of information:	o Excellent	o Good	o Fair
Ease of use:	o Excellent	o Good	o Fair
Content:	o Excellent	o Good	o Fair
Overall effectiveness:	o Excellent	o Good	o Fair

What suggestions, corrections, and additions to the training materials do you have?
(For specific changes, please refer to the page number and paragraph so that we can identify it.)

To order training materials from QAD, visit our web site and download the Training Materials Order Form. Send the completed order form to:

Fax: (856) 840-2612, or
email: COPS@qad.com

Your feedback is important to us. Thank you for taking the time to send it to us.

QAD