QAD Enterprise Applications
Enterprise Edition

User Guide
QAD Serialization

Introduction
Serialization Overview
Setup
Serialization Processing
Application Programming Interface (API)

70-3340-2016EE
QAD Enterprise Applications 2016
Enterprise Edition
March 2016

Serialization_UG.pdf/crl/p9w

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Contents

Serialization Change Summary

The following table summarizes significant differences between this document and previous versions.

Date/Version	Description	Reference
March 2016/2016EE	First release—general availability	--

Chapter 1

Introduction

This chapter provides information about QAD Serialization. It discusses the following topics:

Serialization Solution

The following sections explain the details of QAD Serialization that this user guide describes.

QAD Serialization augments other traceability capabilities within QAD Enterprise Applications. The solution provides a framework for tracking and tracing both lot numbers and serial IDs independently, but linking them together where both are used. In addition to the item serialization capabilities, QAD Serialization provides for license plate inventory management capabilities, letting you uniquely identify packaging units such as cases, boxes, or pallets. License plates eliminate the need for transacting, tracking, and tracing individual item units by lot and serial numbers separately—supporting mass serialization and ensuring a streamlined integration with different packaging units for product storage. The following topics discuss the individual functions that QAD Serialization provides.

Packaging

License plate inventory management lets you define any type of packaging unit—boxes, cases, or pallets, for example—and any number of packaging levels. Default packaging structures, in use when you receive product, can be defined per item, origin, or destination. You can assign label formats by packaging type, origin, or destination to use when printing labels. License plating lets you attach label IDs to packs, which become the identifier for your product/package. The license plate lets material handlers move inventory more efficiently by using the license plate ID. This, in turn, moves the entire content of a package. License plating is required for companies that require their units to be serialized.

Serialized Data Management

The Serialization components let you define serial number format IDs according to various industry standards. This functionality lets you generate serial numbers on request and have full track and trace coverage throughout the life cycle of a serial ID from creation, commissioning, and receiving to inventory, aggregation onto a packaging unit, issuing, and shipping to a customer.

Serialized Inventory Management

The license plate inventory management and item serialization capabilities, which make up QAD Serialization, provide an efficient way to manage packaged inventory by providing a means to identify inventory with unique packaging units from receiving and material movements to issuing or dispatching of goods.

You can package inventory with unique identifiers, using one or multiple packaging levels up to the optional serialization of item units. You can receive inventory by item and lot (non-serialized) or for inventory that is serialized by packaging units. This lets you manage material handling using unique identifiers at the top-level packaging unit, increasing inventory accuracy and material handling efficiency.

APIs embedded in each inventory transaction allow for easy integration with third-party systems.

Communication and Integration

QAD Serialization lets you:

- Communicate externally with customers or trading partners to request new serial numbers for production
- Communicate production status of a serial number
- Communicate serial numbers shipped to a particular destination

Communication can be done through EDI, through specific ePedigree protocols to exchange data from and to specific portals, and through reports.

APIs and the integration foundation of QAD also provide for easy internal communication with other application systems such as Manufacturing Execution Systems (MES), Line Management Systems (LMS), and data collection devices.

Documentation

This user guide describes QAD Serialization. Additionally, you can find field help and program help within both QAD EE character-based and .NET UI environments.

Chapter 2

Serialization Overview

This chapter discusses the following topics:

Introduction

Serialization is the act of assigning a unique identifier to items or packaging. Assigning serial IDs identifies each type of packaged inventory uniquely, including the following:

- Items
- Cases
- Pallets (packaging/shipping units)

Item serialization is the ability to track and trace each purchased, produced, or salable unit independently yet with supplier or production lot numbers. QAD-provided item serialization capabilities let you manage high-volume, mass serialization. You can track and trace while concurrently managing and controlling logistics requirements using lot (batch) numbers.

Companies greatly benefit from the QAD-provided item serialization capabilities when they produce a high number of units of sale per production lot and also require that the units be tracked and traced individually.

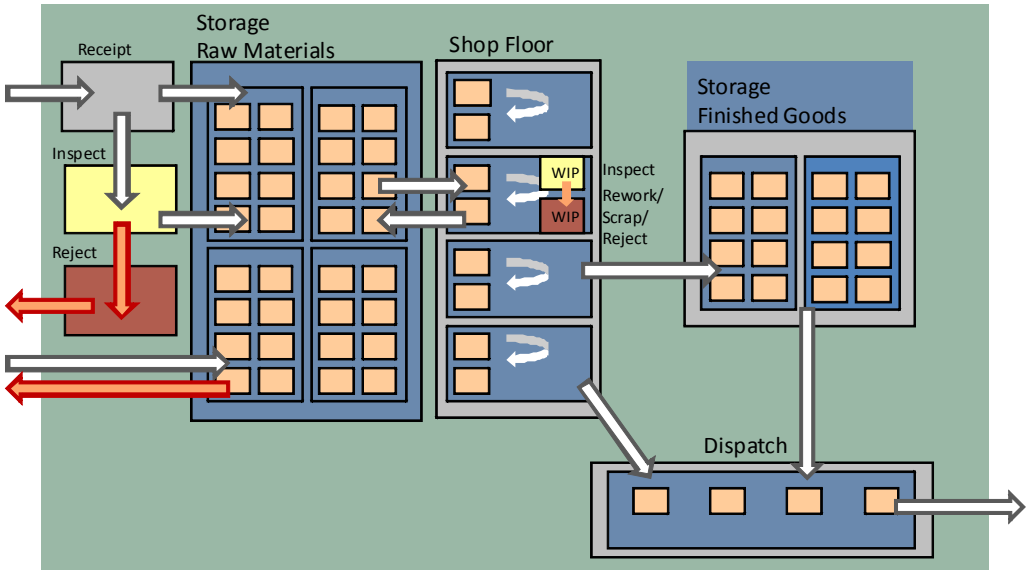
License plate inventory management is a material-handling concept that lets you handle activities by identifying inventory with a license plate number (LPN) and containerizing inventory. The objective is to make inventory movements more efficient by moving inventory as a group, rather than by individual item or lot/serial number. The functions let you package inventory in both single-level and multiple-level packaging. Each packaging unit may require its own LPN and can be aggregated with a higher-level pack.

License plate numbering is typically a requirement of companies who require efficient inventory receipt or movement when the inventory consists of one or multiple packaging levels. It is also a requirement of companies who require serialized item units for a full genealogy of serial tracking and tracing at all packaging levels up to the serialized item units.

License plate inventory management and item serialization features and functions are integrated with inbound receipts, outbound shipment, internal production, and inventory management transactions. These enhanced capabilities improve support for material handling activities in the warehouse and on the shop floor by providing:

- Cycle counting and physical inventory by LPN
- Unloading and material matching of received goods with ASN data during inbound receipts
- Integrated packaging with receiving functions during production or inbound receipts
- Transactions for specific picking, packing, and truck-loading activities before goods are issued (dispatched) to the customer
- Management of specific pack-handling transactions such as building packs, removing inventory from packaging units, or moving inventory by LPN

Fig. 2.1
Serialization Plant Operations



Concepts

The following topics discuss concepts you are required to grasp before you can understand business challenges that QAD Serialization addresses.

Packaging

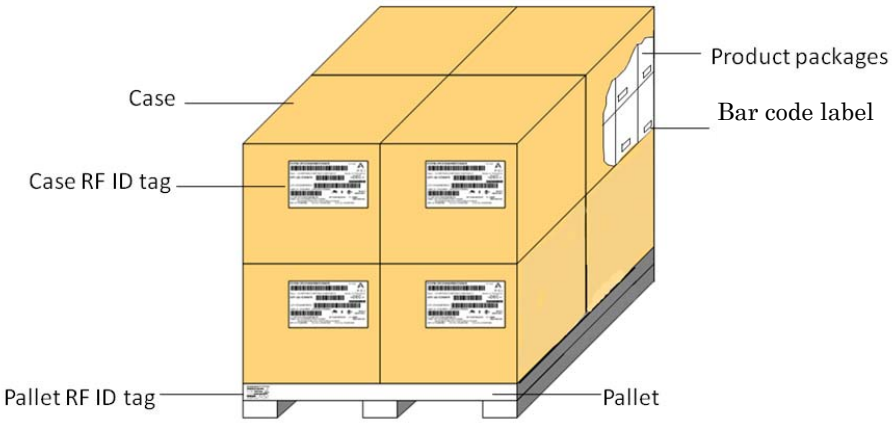
Packaging is a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end use. Goods are manufactured and packaged and typically have multiple levels of packaging to support all logistics activities that occur from manufacturing to consumption of manufactured items.

Depending on the type of business, companies may require that more or fewer levels be tracked and traced in logistics operations. Labels are printed and applied to packs having serial numbers to uniquely identify each shipping unit.

Many products move through the supply chain in a packaged format, making handling, storage, and other processing more efficient. This method helps reduce handling costs and damage by reducing individual handling.

When companies use multiple-level packing, each level can be assigned its own LPN. In this way, when the higher-level packing unit is reconstructed, the lower-level packing units can be easily managed through their own LPNs.

Fig. 2.2
Packaging



ePedigree

An ePedigree is an electronic record, containing information about each transaction, resulting in the change of ownership of a specific item or packaging unit from the manufacturer through the supply chain to the final consumer. For example, pharmaceutical manufacturers with business in California are required by the California ePedigree act to have partially implemented ePedigree, beginning around 2015.

The ability to maintain and view packaging data at the smallest salable packaging unit provides tracking and tracing abilities for the product across the supply chain. Also important is the ability to track how packages are transformed as they move through the supply chain. To be more specific, this capability tracks packaging the lowest-level items into packs, building packs, repackaging, pack returns, and so on.

These two distinct concepts—item serializing and ePedigree—require two distinct, different solutions in industry: You can generate a pedigree at the lot level without serialization, and you can serialize product without generating a serialized pedigree.

Business Challenges

In many business environments, inventory data is not accurate, because real-time updates on inventory movements are not available. Staff ship, receive, and move inventory within a plant with visibility into the results of these transactions often being poor, resulting in:

- Obsolete inventory because the floor or warehouse was not aware that product was available for shipment
- More inventory than necessary because the system did not have a record of inventory being available and as such more product is produced than is needed
- Orders being fulfilled later than needed because you did not know that you already had part or all of the product available

In addition, the spread of counterfeit goods—or knock-offs as they are more commonly called—has become global in recent years. Copied goods infringe upon the rights of the holder of a trademark by displaying a trademark that is either identical to a protected trademark or by using an

identification that you cannot distinguish from the original trademark. Serialization at multiple levels can aid in distinguishing the true product from counterfeit product. The use of a serial number of a product—for the unit/pack/case—provides for the identification of that product at a unique level. Serialization typically includes human-readable serial numbers; so, serial numbers that are not valid for a product can indicate fraud. Or, two packages with the same serial number can indicate that the product is not aligned with what is sold.

For ePedigree requirements, systems must capture identification data and exchange the data with their business partners. The data collection is required to start at either product receipt or the production line. After the goods have been produced and packaged, various material handling events can occur before goods are shipped such as transfers or repackaging. The system must track any sort of material handling event before goods are shipped toward the next trading partner in the supply chain.

Previously, QAD EE did not provide the ability to track and trace mass serialization at units of sale and shipping units, independent from lot tracking and tracing functions, and in a way that multi-level serialized packaging structures could be aggregated and controlled throughout inventory transactions.

Users could not define different packaging types as bill of packaging structures by item, origin, or destination during inbound or outbound processing, or during production receiving processes of packaged materials.

QAD EE did not provide a mechanism to define serial ID formats that pertain to various standards to uniquely identify packs. Further, because assigned IDs are regulated by customer or order so that the life cycle of IDs starts before goods are received, there was no way to book serial IDs for a customer or order.

Solution

With the license plate inventory management and item serialization functions added to QAD EE, you can now build the foundations to capture, store, and retrieve unique serial ID records for each packaging unit level. In this way, the system provides accurate, real-time data updates on inventory processing and resolves inventory track and trace issues.

Serialization capabilities combat counterfeit efforts by providing unique serialized IDs to every level of the packaging. You can track and trace the serial IDs throughout your product processing.

For ePedigree requirements, you can capture identification data and exchange the data with business partners. You can use integration capabilities in the form of QDocs using the QAD QXtend integration solution to obtain serial ID ranges from external systems for use in QAD Enterprise Applications. For example, when customers issue ID ranges to use on items to ship, QAD EA can receive the ID ranges. Some ePedigree requirements will be met using the Item Attributes solution, and that the combination of Serialization and Item Attribute functions supports ePedigree requirements.

You can use Serialization capabilities to define different packaging types as BOP structures by item, origin, or destination. You can utilize those structures during inbound or outbound processing, or during production receiving processes of packaged materials.

All key inventory transactions are supported, such as:

- Inbound receipts

Staff can receive serialized packaging units from suppliers. Staff can unload incoming shipments from trucks and reconcile them to the inbound ASN by entering received serial IDs and matching the IDs to the ASN. Discrepancies can be reviewed and corrected before receiving the shipment. Inventory is stored in packs until issued or shipped. When inventory is not received from the supplier in packs, staff can build the packs as part of the receiving process.

- Production receipts

  For production, staff can issue serialized material to the floor and capture the aggregated serial information during production receipt. For example, you uniquely identify the units you manufacture with a serial number, then place the units in a uniquely identified box. You place boxes into a serialized case, and, finally, cases onto serialized pallets. Staff scan the data, which is then captured and channeled into QAD EE Serialization during production receipt.

- Inventory movement

  Staff can move serialized inventory—whether raw materials or finished goods—by using only the unique serial number and capturing all inventory specifics for a case, pallet, or other packaging unit. When moving finished product, staff simply record or scan the unique pallet identifier, and every other serial number is then moved with it in the system.

- Shipment

  Serialized information for shipments is captured and can be sent to customers in different formats. Staff can build a shipment by picking inventory by serial ID of a box or item and optionally build into larger packaging units such as pallets or trailers. Bills of lading (BOLs) and shipping documents print the number of packs included in the shipment.

Using Serialization functions, you can also determine the stage of the unit, its origin, and whether the unit is decommissioned. These features are tracked and traced independently from existing lot control features of QAD EE.

Serialization programs let you:

- Define packaging types and packaging structures, which define the way that goods are expected to be packaged depending on item, supplier, site, or customer address.

  Serialization lets you choose which level to uniquely identify; so, you can choose to uniquely identify only the salable item package, but not items, cases, pallets, or shippers.

- Define multiple serial ID ranges, depending on domain, site, item, and address.

  You can define different serial ID range combinations based on domain, site, item, and/or address.

- Manage inventory by lot/reference and serial numbers, independent from each other.
- Track and trace your product.

  You can track and trace the status of a particular serial ID or ID range. You can also track and trace where packs are located that contain a particular item and view all packs in a particular inventory unit. You can monitor the life cycle of serial IDs in these stages:

  - Inactive, such as serial IDs created or booked
  - Active, such as serial IDs linked with specific inventory records
  - Used, such as serial IDs decommissioned or shipped

- Print labels.

When integrated with QAD Label Printing Services, Serialization provides you the ability to generate labels directly from the various business process transactions to barcode printers. You can print labels for inbound or production receipt transactions by either pre-assigning serial ID ranges to orders and printing labels in advance of the receipt or printing them at the time of actual receipt.

- Manage external and internal communication of Serialization data.

  Serialization functions let you communicate with customers or trading partners to request new serial IDs for production or inform them of the production status of a serial ID or shipped serial IDs. You can communicate this information using EDI and ASN functions. Additionally, you can communicate data through specific protocols to exchange data from and to specific portals that your OEM or specific industries regulate.

  Companies that are required to capture, validate, and store serialized data and ensure that labels are printed during in-line production processes, especially in the case of mass serialization, typically use Manufacturing Execution Systems (MES) or Line Management Systems (LMS). The QAD solution provides integration capabilities in the form of QDocs using the QAD QXtend integration solution to obtain serial ID ranges from QAD EA and communicate them to the MES/LMS system.

Serialization Functions During Processing

You can use Serialization functions for order processing during:

- Recipts for POs, including PO lines for subcontract work and supplier scheduled orders
- SO and customer scheduled order shipping and truck loading
- DO receipts
- Returns for POs, supplier scheduled orders, SOs, customer scheduled orders, and DOs

You can use Serialization functions in production processing during:

- Component transfer or stock movements on the shop floor
- Component issues
- WO receipts
- WO backflush

You can also use Serialization functions for repetitive and advanced repetitive processing during production:

- Backflush transactions
- Component transfer to the shop floor
- Scrap and reject of components

For information on the menus you use for these processes, see Chapter 4, “Serialization Processing,” on page 39.

The following topics describe benefits afforded through Serialization capabilities, then provide more information on Serialization features.

Benefits

QAD EE Serialization features provide the following:

- Enhanced product safety and integrity
- Increased tracking and traceability at both packaging level and item level
- Increased speed and reduced cost of product recall process
- Detection and elimination of counterfeiting
- Support for important aspects of customer and regulatory requirements, trading partners, or the California ePedigree Act (2015)
- Improved inventory accuracy, shipping performance, and business relationships
- More accurate order fulfillment
- Improved efficiency and data quality in the warehouse or on the shop floor
- Improved inventory visibility, both upstream and downstream
- Improved reverse logistics processes (returns)
- Improved supply chain synergies and efficiencies, including:
  - Receiving and shipping accuracy
  - Increased operational productivity or granularity in query responses from audits
  - Brand protection

Features

Serialization functions are integrated with existing QAD EE functions, and provide:

- Packing setup
- Serialization setup
- Label Print setup
- Production
- Shipping
- Receiving
- Returns
- Packing transactions
- Inventory transactions
- Cycle counting and physical inventory
- Serialized inventory reports
- Serialization control

The following topics provide more information on specific Serialization functions and features:

- “Create and Manage Packaging” on page 9
- “Create and Manage Serial IDs” on page 10
- “Create and Print Pack Labels” on page 11
- “Transactions” on page 12
- “Integration with Other QAD Solutions” on page 13

- “Reporting Information” on page 14

Create and Manage Packaging

To capture information on how goods are packaged and the quantity of each pack, QAD EE Serialization functions provide a way to create, maintain, and retrieve packaging master data records. Serialization functions automate the process of receiving inventory for either inbound receipts or manufactured goods and the capture of the multilevel packaging data for tracking purposes. These functions also automate the process of issuing materials either for shipments or to production.

Packaging master data tracks how many units go into a unit pack and how many packs can be assembled on to a next-level packaging type. To capture information on the number of units that go into a unit pack and the number of packs that can be assembled on a higher-level packaging, Serialization functions let you define:

- Pack codes
- Bill of packaging structure by:
  - Item
  - Source (ship-from, site)
  - Destination (ship-to site)

Pack Codes

You can define pack codes for any type of packaging. You can create pack codes from the lowest-level pack up to the top-level pack, such as box, case, and pallet. You can indicate whether a pack can hold different items or lots.

BOP Structures

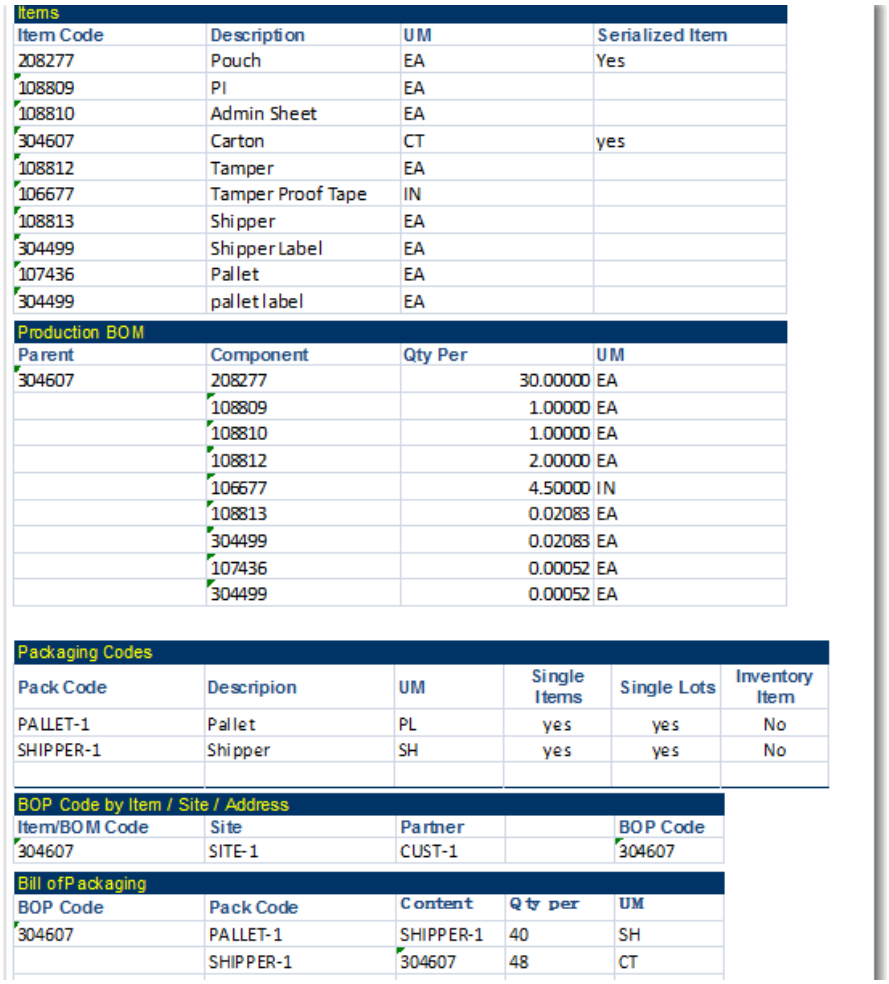
The BOP structure defines how many packing units are required for each level. You can define different packing types, such as pallet, shipper, or cartons. You can also assign the UM and define the number of units of lower-level pack types that the top-level packaging type contains.

Creating this BOP structure lets the system track how packs are aggregated (quantities per pack) and how serial IDs are assigned to each produced or received pack. This feature helps the process of aggregating and commissioning packs during receipt. Once you receive packs in stock packs, you can build, remove, open, decommission, and so on.

BOPs can be generic and you can reuse them for many items; or, they can be specific to an item or item BOM code. You can use different BOP codes for the same item when shipping to multiple partners that have slight variations in packaging requirements. You can assign packaging or BOP codes by item, partner, and more. You can assign them during receipt.

The following example shows item packaging levels.

Fig. 2.3
Package Example



Items

Item Code	Description	UM	Serialized Item
208277	Pouch	EA	Yes
108809	PI	EA	
108810	Admin Sheet	EA	
304607	Carton	CT	yes
108812	Tamper	EA	
106677	Tamper Proof Tape	IN	
108813	Shipper	EA	
304499	Shipper Label	EA	
107436	Pallet	EA	
304499	pallet label	EA	

Production BOM

Parent	Component	Qty Per	UM
304607	208277	30.00000	EA
	108809	1.00000	EA
	108810	1.00000	EA
	108812	2.00000	EA
	106677	4.50000	IN
	108813	0.02083	EA
	304499	0.02083	EA
	107436	0.00052	EA
	304499	0.00052	EA

Packaging Codes

Pack Code	Descripion	UM	Single Items	Single Lots	Inventory Item
PALLET-1	Pallet	PL	yes	yes	No
SHIPPER-1	Shipper	SH	yes	yes	No

BOP Code by Item / Site / Address

Item/BOM Code	Site	Partner		BOP Code
304607	SITE-1	CUST-1		304607

Bill of Packaging

BOP Code	Pack Code	Content	Qty per	UM
304607	PALLET-1	SHIPPER-1	40	SH
	SHIPPER-1	304607	48	CT

Create and Manage Serial IDs

Using license plate inventory management and item serialization programs, you can define which items require item serialization and license plate inventory management. You define the serial ID sequence number format and rules for the system to assign numbers. Serial IDs are sequential.

The format and rules help you to comply with standard formats used in the industry. You can assign specific number formats or number ranges by:

- Domain
- Site
- Customer or supplier
- Item-BOM code
- Packaging type for both serialized and non-serialized items

You can assign specific number ranges or serial ID numbers to be booked for a specific SO or WO. You can use SO booking functions so that you know which serial IDs are in use and track them, or you can provide serial IDs ahead of time to suppliers.

Even though you cannot book a range for a production line or PO, you can create a serial ID range and associate the range with a supplier address. Then you can create serial IDs in advance of the PO or shipper receipt. In this way, you create serial IDs and provide them to a supplier in advance for future receipts.

For production lines, you can also create serial IDs in advance. Although you cannot assign a serial ID by production line, you can, however, create different BOM codes for different lines for an item. And then you create packs for the production line and reference the BOM code.

Serial Stages

You can define specific serial stage codes to track the current situation of a serial number before, during, and after inventory processing. These codes include system- and user-defined codes for active serial numbers related to stock in inventory. The system stores serial ID ranges and other serial data independently from lot detail data and inventory transaction history.

Table 2.1
Serial ID Stages

Stage	System- or User-Defined	Comments
Active	System	Serial IDs become active once inventory has been received in the system.
Aggregated	System	Aggregated lets you know that the serial number belongs to a packaging structure that has a higher-level hierarchy. It drives validations for active packages (inventory still in the system). Business logic determines whether aggregated serial IDs are active or decommissioned.
Booked	System	Serial IDs are booked for use. Work Order Serial Booking and SO/RMA Serial Booking use this stage.
Consumed	System	Stage set through ISS-SO or ISS-UNP transactions. Also for WO component issue or when components are backflushed, using the backflush transaction.
Decommissioned	System	All items or lower-level packs are removed from the package; however, you can reload them.
New	System	New serial ID. Pack Create by WO, Pack Create by Production Line, Pack Create by PO/Shipper, Pack Create by Pack Structure, and Pack Create by Pack Code use this stage.
Pending	System	Pending stage is used by Pack Receipt by WO, Pack Receipt Unplanned, and Pack Receipt by Production Line. The stage identifies that a packaging structure has been created and receipt is being held until staff completes building packs and is ready to receive.
Picked	System	The serial IDs are in use for picking. Pre-Shipper/Shipper Picking and Pre-Shipper/Shipper Pack Build use this stage.
Unused	System	Unused stages are for numbers that were initially reserved or booked for an order, but not commissioned. They can be reused.

Create and Print Pack Labels

You can define label formats for:

- Packaging types
- Items

For packaging types, you can define primary and secondary label formats for a specific packaging type by site, pack code, address, BOP code, or item. You can create packs and print labels before or after inventory is received. You can define:

- Primary label format: For transactions that let you print labels for packs, the system looks for this label format first for the pack, based on site, pack code, address, BOP code, and so on.
- Secondary label format: The system uses this format in specific label-printing functions. The system finds both primary and secondary label formats in these functions, based on site, pack code, address, BOP code, and/or item and prompts you to choose one.

For items, you can define a label format code for specific inventory items. You can also define primary and secondary label format codes for a specific inventory item by site, item, and address.

Serialization functions let you manage label printing through the QAD EE Serialization programs or through the RF device. Serialization programs prompt you to print labels. The system determines the label format.

Transactions

Serialization functions control inbound and production order receipts, inventory movements, and issues/shipments for key transactions. You create pack transactions when you:

- Create, build, or commission packs
- Remove or decommission packs
- Change stages for packs
- Receive planned and unplanned packs
- Issue or transfer packs
- Scrap inventory in packs
- Book serial IDs for SOs and WOs
- Link WOs to SOs
- Pick or pack for SOs
- Create or confirm pre-shippers
- Unload for POs
- Count packs by cycle count or physical inventory

Serialization functions let you conduct transactions on the RF device, view transaction data through reports and browses in CHUI and .NET UI, and view transaction data through .NET UI collections.

Serial History Transactions

History transactions resulting from Serialization functions are listed in the following table.

Table 2.2
Serial History Transactions

Type Code	Description
PCK-COM	Commission or create a pack serial ID
PCK-DEC	Decommission a pack serial ID

Type Code	Description
PCK-DEL	Delete a pack serial ID
PCK-BLD	Build non-serialized loose inventory into a pack, or build a lower-level pack to its parent
PCK-RMV	Remove the content from a pack
PCK-CHS	Change the pack stage
PCK-MOV	Reflects a serial inventory move from inventory movement transactions: • ISS-TR/RCT-TR
PCK-RCT	Receive a pack
PCK-ISS	Issue a pack

The following transactions are related to serialized items:

Table 2.3
Serialized Item Transactions

Transaction	Description
SER-COM	Commission/create the serial ID
SER-BLD	Attach item information to item serial ID
SER-DEC	Remove the serialized item from the unit pack
SER-CHS	Serial unit stage change
SER-RCT	Serial unit receipt
SER-ISS	Serial unit issue
SER-DEL	Delete the serial unit
SER-MOV	Transfer the serial unit
PCK-CNT	Cycle count the pack
SER-CNT	Cycle count the serial unit
TAG-CNT	Count the tag
PCK-ADJ	Adjust pack information after counting

Integration with Other QAD Solutions

Serialization and EDI eCommerce

Serialization is also integrated with EDI eCommerce. You can use serialized advance ship notices (ASNs) for inbound and outbound messages that contain shipper, container, and item data as well as serialization data. You can also export serialization information for outbound shipments through EDI eCommerce programs.

Note There is a limitation on the integration between Serialization and EDI eCommerce. Serialization data of kit components cannot be exported through EDI eCommerce programs.

Finally, QAD provides the framework for Serialization to be integrated with third-party products so you can:

- Capture serial numbers from trading partners.
- Communicate usage and shipment of serial IDs to trading partners.
- Export serial IDs that are booked for a specific work order.

- Capture serialization hierarchy—aggregated serial numbers from pallet, shippers, items—during WO receipts transactions.

Serialization with Item Attributes and Quality Control

The system can automatically create a lot attribute order or a quality order during receipt of serialized inventory. For information on lot attribute orders and quality orders, refer to *QAD Item Attributes and Quality Control User Guide*.

In receipt transactions for serialized inventory, you can:

- Enter attribute values for a lot.
- Create or update lot attribute or quality orders for the receipt transaction.

When processing inventory, the system warns you when you pick, pack, or issue inventory that does not conform to pre-specified attribute values. The system records attribute validation results for issue, transfer, or shipment transactions. Also, you can copy lot attributes when you transfer serialized inventory to a new lot or reference. The system prompts to create a lot when you receive into an existing lot. Finally, you can optionally set labels that you print to also print attribute values.

Reporting Information

Browses and reports are available to verify the data the system creates:

- Item Label Format Report
- Pack Label Format Report
- Pending PO Shipper Unload Report
- PO Discrepancies Report
- Serial Booking by WO Report
- Serialized Inventory Report
- Uncounted Tag Report/Update
- Item Packaging Browse
- Match Level Browse
- Pack Code Browse
- Packaging Structure Browse
- Physical Inv Serial Trans Browse
- Pre-Shipper/Shipper Serial Browse
- Serial ID Range Browse
- Serial Master Browse
- Serial History Browse (includes references to inventory transaction data in cases where the inventory transaction is related to the packaging transaction)
- Tag Browse
- Cycle Count Results Browse Collection
- Pre-Shipper/Shipper Truck Load Browse Collection

- Shipping History Browse Collection

Note You can find the menu numbers for the reports in the table in the following topic on Serialization programs.

Serialization Programs

Serialization-related programs include:

Table 2.4
Serialization Programs

Menu	Program Label	Program Name
3.3	**Label Print Menu....**	
3.3.1	Label Print–Non Serialized Inv	panpt.p
3.3.2	Label Print by Serial ID	papt.p
3.3.3	Bulk Label Print	pabkpt.p
3.3.4	Label Print Status Update	paptrpt.p
3.13	**Cycle Counting Menu...**	
3.13.13	Cycle Count Entry by Location	paccel.p
3.13.14	Cycle Recount Entry by Location	pacrel.p
	Cycle Count Results Browse Collection	.NET UI only
3.16.3	**Serialized Physical Inventory....**	
3.16.3.1	Pack Tag Create	paptcr.p
3.16.3.2	Pack Tag Print	.NET UI only
3.16.3.3	Pack Tag Count Entry	paptcc.p
3.16.3.4	Pack Tag Recount Entry	paptrc.p
3.16.3.5	Tag Browse	pabr074.p
3.16.3.6	Inventory Balance Update by Pack	.NET UI only
3.16.3.7	Uncounted Pack Tag Report/Update	.NET UI only
3.16.3.8	Tag Delete/Archive	.NET UI only
3.16.3.14	Physical Inv Serial Trans Browse	pabr075.p
	Physical Inventory Counting Result Collection	.NET UI only
3.17	**Serialization - Inventory...**	
3.17.1	Pack Create by Pack Structure	papacr.p
3.17.2	Pack Create by Pack Code	papacr01.p
3.17.3	Pack Build	papabd.p
3.17.4	Pack Commission	papacm.p
3.17.5	Pack Remove	paparm.p
3.17.6	Pack Decommission	papadecm.p
3.17.7	Pack Transfer	papatr01.p
3.17.8	Pack Transfer with L/S Change	papatr02.p
3.17.9	Pack Transfer - Multi Pack	papatr03.p
3.17.10	Pack Stage Change	papsmt.p
3.17.11	Multiple Pack Stage Change	.NET UI only

Menu	Program Label	Program Name
3.17.12	Inventory Scrap by Pack	painsc.p
3.17.13	Pack Receipt Unplanned	paparc.p
3.17.14	Pack Issue Unplanned	papais.p
3.17.15	Pack Merge	papamg.p
3.17.16	Pack Split	papasp.p
3.17.17	Repackage	paparp.p
3.17.20	Serial Usage Export	.NET UI only
3.17.22.1	Serialized Inventory Report	.NET UI only
3.17.22.2	Serial Master Browse	pabr015.p
3.17.22.3	Serial History Browse	pabr016.p
3.17.22.4	Serial Hierarchy Definition Rpt	.NET UI only
3.17.22.5	Serial Hierachy Simulation Rpt	.NET UI only
3.17.23	Serial Delete/Archive	.NET UI only
3.17.24	Serialization Control	pascmt.p
3.17.25	Serial Hierachy Inquiry	pashrp.p
5.13.12	**Serialized Receipts...**	
5.13.12.1	Match Level Maintenance	palmmt.p
5.13.12.2	Match Level Browse	pabr023.p
5.13.12.3	Pack Create by PO/Shipper	papocr.p
5.13.12.13	Pending PO Shipper Unload	papoul.p
5.13.12.14	Pending PO Shipper Unload Report	.NET UI only
5.13.12.15	PO Discrepancies Report	.NET UI only
5.13.12.16	Purchase Order Returns by Pack	paporvpk.p
7.1	**Sales Order Menu...**	
7.1.20	SO/RMA Serial Booking	pasobk.p
7.8	**Serialization - Shipment...**	
7.8.1	Pre-Shipper/Shipper Picking	pasopi.p
7.8.2	Pre-Shipper/Shipper Pack Build	pasopa.p
7.8.4	Truck Load	patrkld.p
7.8.6	Shipping Data Maintenance	patrkwt.p
7.8.12	Move Pack between (Pre-)Shippers	pasoshmv.p
7.8.25	Pre-Shipper/Shipper Serial Browse	pabr058.p
	Pre-shipper/Shipper Truck Load Browse Collection	
	Shipping History Browse Collection	
12.9	**Serialization - DO & Intersite Req**	
12.9.1	Pre-Shipper/Shipper Picking	pasopi.p
12.9.2	Pre-Shipper/Shipper Pack Build	pasopa.p
12.9.4	Truck Load	patrkld.p
12.9.6	Shipping Data Maintenance	patrkwt.p
12.9.12	Move Pack between (Pre-)Shippers	patrkwt.p
12.9.13	DO Receipt by Pack	padord.p

Menu	Program Label	Program Name
12.9.15	DO Unload	padoul.p
13.14	**Packaging Setup Menu....**	
13.14.1	Pack Code Maintenance	papcnt.p
13.14.2	Pack Code Browse	pabr001.p
13.14.4	Packaging Structure Maintenance	pabpmt.p
13.14.7	Item Packaging Maintenance	paipmt.p
13.14.8	Item Packaging Browse	pabr003.p
13.14.13	Pack Label Format Maintenance	palbpamt.p
13.14.14	Pack Label Format Report	.NET UI only
13.14.16	Item Label Format Maintenance	palbptmt.p
13.14.17	Item Label Format Report	.NET UI only
13.14.19	Serial ID Range Maintenance	padrmt.p
13.14.20	Serial ID Range Browse	pabr014.p
13.14.21	Serial Range Extension	pasrmt.p
13.14.25	Packing Structure Browse	pabr019.p
16.15	**Serialization - Work Order...**	
16.15.1	Work Order Serial Booking	pawobk.p
16.15.2	Pack Create by WO	pawocr.p
16.15.3	Pack Receipt by WO	paworc.p
16.15.6	WO Receipt Backflush by Pack	pawobkfl.p
16.15.11	WO Receipt Correction by Pack	pawort.p
16.15.13	WO Component Issue by Pack	pawois.p
16.15.14	WO Component Return by Pack	pawoisrt.p
16.15.25	Component Serial Maintenance	pawoco.p
16.15.26	Serial Booking by WO Report	.NET UI only
18.22.7	**Serialization - Repetitive...**	
18.22.7.1	Pack Create by Production Line	palncr.p
18.22.7.2	Pack Receipt by Production Line	pabkfl.p
18.22.7.3	Rep Receipt Correction by Pack	parrco.p
18.22.7.5	Rep Picklist Transfer by Pack	parepkis.p

The following table shows existing QAD EE programs that were moved to accommodate new programs for Serialization. New menu labels were added in some areas to accommodate and organize the moved programs.

Table 2.5
Moved Programs and New Menu

Old Menu Number	New Menu Number	Program Label
	3.1 (new)	Inventory Detail
3.2	3.1.14	Inventory Detail by Item Browse
3.3	3.1.15	Inventory Detail by Site Browse
3.17	3.6.11	Stock Availability Browse
	16.3 (new)	Work Order Reports

Old Menu Number	New Menu Number	Program Label
16.15	16.3.10	Work Order Bill Shortage Inquiry
16.16	16.3.11	Work Order Bill Shortage Report
16.17	16.3.12	Work Order Bill Shortage by Item
	18.22.6 (new)	Adv Rep Accounting
18.22.6	18.22.6.1	Cumulative Order Maintenance
18.22.7	18.22.6.2	Cumulative Order Browse
18.22.8	18.22.6.3	Cumulative Order Report
18.22.9	18.22.6.4	Post Accumulated Usage Variance
18.22.10	18.22.6.5	Cumulative Order Close
18.22.11	18.22.6.6	Cumulative Order Create

Table 2.6 lists QAD EE programs that were changed for or affected by Serialization functionality.

Table 2.6
Changed Programs

Menu	Program Label	Program Name
1.4.1	Item Master Maintenance	ppptmt.p
1.4.2	Item Master Inquiry	ppptiq05.p
1.4.5	Item Inventory Data Maintenance	ppptmt01.p
1.4.6	Item-Site Inventory Data Inquiry	ppptiq01.p
1.4.11	Item-Site Master Inquiry	ppptiq00.p
1.4.12	Item Master Copy	ppptcp.p
1.4.13	Item Number Change	ppptcg.p
1.4.16	Item-Site Inventory Data Maint	pppsmt01.p
1.6	Item Browse	ppbr100.p
3.1.15	Inventory Detail by Site Browse	icbr004.p
3.4.1	Transfer–Single Item	iclotr02.p
3.4.3	Transfer With Lot/Serial Change	iclotr03.p
3.4.4	Batchload Transfer with Lot/Seri	iclotr04.p
3.7	Issues - Unplanned	cunis.p
3.9	Receipts - Unplanned	icunrc.p
3.14	Inventory Scrap Transaction	icscrpmt.p
3.13.1	Cycle Count Worksheet Print	icccrp.p
3.13.2	Inventory Adjustment Entry (changed from Cycle Count Results Entry)	icccaj.p
3.13.3	Inventory Adj Results Report (changed from Cycle Count Results Report)	icccrp01.p
3.16.4	Inventory Balance Freeze	piibfrz.p
3.16.7	Tag Void Status Update	pivtup.p
3.16.11	Item Tag Count Entry (Changed from Tag Count Entry)	pitcmt1.p
3.16.12	Item Tag Recount Entry (changed from Tag Recount Entry)	pitcmt2.p
5.8	Purchase Order Browse	pobr006.p
5.13.7	Purchase Order Returns	porvis.p
5.13.20	PO Shipper Receipt	rsporc.p

Menu	Program Label	Program Name
5.17	Supplier Schedule Browse	pobr028.p
7.1.2	Sales Order Browse	sobr009.p
7.5.25	Customer Scheduled Orders	sobr066.p
7.9.2	Pre-Shipper/Shipper Workbench	rcshwb.p
7.9.3	Pre-Shipper/Shipper Inquiry	rciq03.p
7.9.4	Pre-Shipper/Shipper Print	rcrp13.p
7.9.5	Pre-Shipper/Shipper Confirm	rcsois.p
7.9.6	Pre-Shipper/Shipper Report	rcshrp01.p
7.9.8	Sales Order Shipper Maintenance	rcshmt.p
7.9.12.1	Bill of Lading Print	rcrp12.p
7.9.21	Shipper Unconfirm	rcunis.p
12.15.13	Orders In Transit Browse	dsbr003.p
12.15.20	Distributed Order Receipt	dsdorc.p
12.17.21	Distribution Order Processing	dsdomt02.p
12.17.22	Distribution Order Shipments	dsdois.p
12.19.1	DO Picklist/Pre-Shipper–Auto	dodssl.p
12.19.3	DO Pre-Shipper/Shipper Maint	dodsshmt.p
12.19.4	DO Pre-Shipper/Shipper Inquiry	dodsshiq.p
12.19.5	DO Pre-Shipper/Shipper Report	dodsshrp.p
12.19.11	DO Pre-Shipper/Shipper Print	dodsshpr.p
12.19.13	DO Pre-Shipper/Shipper Confirm	dodsois.p
16.2	Work Order Browse	wobr003.p
16.6	Work Order Release/Print	woworl.p
16.7	Multiple Work Order Release/Print	woworl01.p
16.10	Work Order Component Issue	wowois.p
16.11	Work Order Receipt	wowois.p
16.12	Work Order Receipt Backflush	wowoisrc.p
18.22.13	Backflush Transaction	rebkfl.p
18.22.3.1	Repetitive Picklist Calculation	repkup.p
18.22.3.5	Repetitive Picklist Print	repkrp01.p
18.22.3.6	Repetitive Picklist Transfer	repkis.p
18.22.3.25	Repetitive Picklist Report	.NET UI only

Chapter 3

Setup

This chapter discusses the following topics:

Introduction

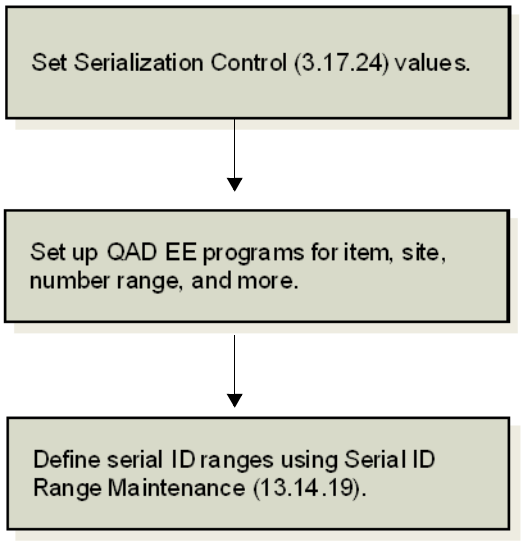
The following topics describe the setup for Serialization functions within QAD EE. Setup of standard QAD ERP components, such as sites, items, orders, entities, and so on, are not covered in the following topics, unless specific Serialization fields exist within the QAD EE maintenance programs that let you set up these basic QAD EE components. Refer to *QAD Master Data User Guide* and *QAD Manufacturing User Guide* for information about the setup of QAD EE components.

Setting Up Master Data

The following topics present Serialization setup information.

The following setup flow provides a general approach to setting up Serialization.

Fig. 3.1
Setup Flow



Setting Controls

Use Serialization Control (3.17.24) to define control settings for Serialization.

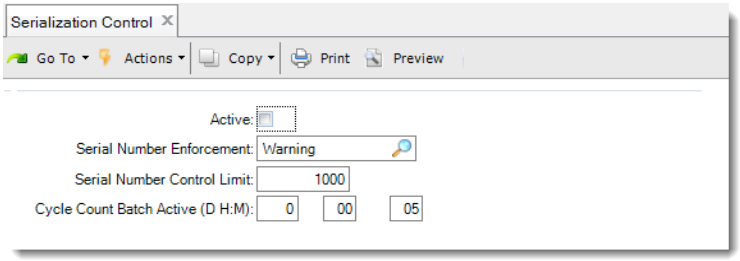
Select the Active field to activate Serialization functions.

Note QAD Serialization is not compatible with QAD Warehousing. When QAD Warehousing is activated, you cannot select the Active field in Serialization Control to activate Serialization functions. And if QAD Serialization is activated, you cannot use QAD Warehousing functions.

You can set control options that let you avoid system generation of many serial IDs at the same time. You do this by setting up the type of validation the system applies when the maximum number is reached.

When you create serial IDs with any of the Serialization pack create functions, when the number of created serial IDs exceeds the serial number control limit set, the system can display a warning or error.

Fig. 3.2
Serialization Control (3.17.24)



Active. Select this field to activate Serialization functions. The default value is No.

Serial Number Enforcement. Indicate the level of enforcement when serial number control limits are reached.

None: The system takes no action when the serial ID number limit is reached.

Warning: The system displays a warning when the serial ID number limit is reached but processing can continue.

Error: The system displays an error when the serial ID number limit is reached, and you cannot continue processing until you reset values in Serialization Control.

Serial Number Control Limit. Enter the maximum number of serial IDs to generate.

The system generates the maximum number of serial IDs in one transaction; for example, during a pack create, receipt, or build.

Cycle Count Batch Active (D H: M). Enter the time in days, hours: minutes for active cycle count batch processing. Cycle count batch processing can remain active after the system creates the batch to process. When you enter a (0) as the time, this indicates there is no limit on active days. You cannot enter negative numbers,

When you enter cycle count results, the system first attempts to locate an active batch ID based on site/location/item. When a batch ID cannot be found, the system creates a new one. When the system finds an expired batch ID, the system sets the batch ID as expired and creates a new batch ID. When the batch ID is active, the system uses the batch to record cycle count results.

Setting Up QAD EE Programs

If you are only running serialized operations, then you use the following programs in QAD Enterprise Applications:

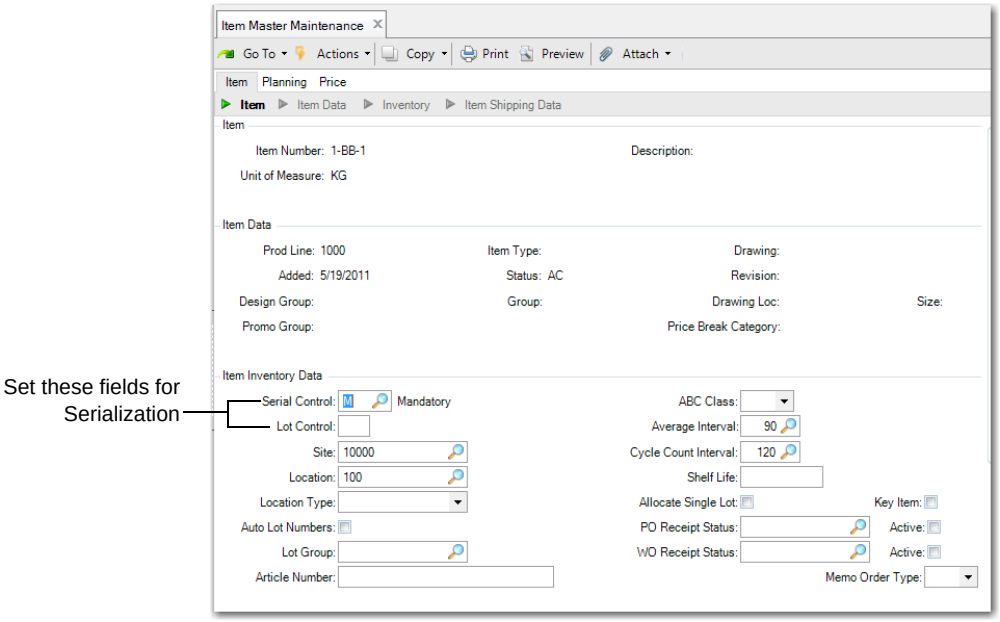
- Set serial control for items in Item Master Maintenance (1.4.1).
- Define a number range in Number Range Maintenance (36.2.21.1).

Note Site Maintenance is not described in this user material; however, you should set up the site in which Serialization operations occur. When an item is serialized, you can define different sequence ranges for different sites in Serial ID Range Maintenance. See *QAD Master Data User Guide* for information on setting up sites.

Setting Serial Control for Items

Use Item Master Maintenance to set the serial control for specific items.

Fig. 3.3
Item Master Maintenance (1.4.1)



Important fields include:

Serial Control. Define whether this item needs to be serialized.

M: Mandatory. Each item in the inventory requires a serial ID.

N: Never. This item is not serial controlled, but the pack containing this item can have a serial ID. The default is N(ever).

Lot Control. The value of Lot Control for the item determines if a lot or serial number is required.

Blank: Lot/serial numbers are not required, although they can be recorded as needed.

When Serial Control is set to M(andatory) and Lot Control is blank, the system generates item serial IDs; however, it is not mandatory that you enter the lot number.

L: Lot numbers are required for this item. During issues and receipts, a lot number must be entered. The lot number applies to the entire transaction quantity entered.

When set to L and:

- Serial Control is set to M(andatory), the item requires both item serial ID and lot number, so that each inventory item has a serial ID and the items can be of the same lot.
- Serial Control is set to N(ever), the system does not create an item serial ID for the item; however, you can still pack it in a serialized pack. You must enter a lot number.

S: Single Lot. Lot is limited to having a maximum quantity of one. During issues and receipts, the maximum quantity for each lot is a quantity of one. For example, when you receive 10, you must enter 10 lot numbers with a quantity of one each.

When the Serial Control field is set to M(andatory), you cannot set this field to S. Conversely, when you set Lot Control to S, you cannot set Serial Control to M.

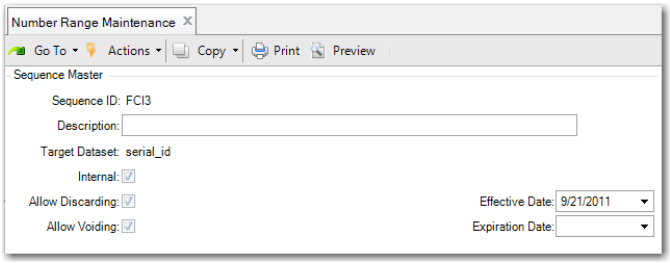
The value entered in Item Master Maintenance is used as the default for all sites.

The system maintains complete lot/serial number traceability. The Lot Actual Bill Inquiry lists all the lot/serial numbers of components and raw materials used to make a given lot/serial number.

Defining a Number Range

Use Number Range Maintenance (36.2.21.1) to define a number range for both internal and external serial IDs. If the serial IDs are imported, clear the Internal box. Set the Target Dataset field to serial_id.

Fig. 3.4
Number Range Maintenance (36.2.21.1)



Important fields include:

Sequence ID. Indicate the sequence ID for the serial IDs.

Target Dataset. Set this field to serial_id.

Internal. Indicate whether the serial IDs are internal or imported.

Using Serial Range Extension

You can use Serial Range Extension (13.14.21) to do either of the following:

- Import serial IDs from external sources.
- Customize a serial ID range to include a custom segment in the NRM value to satisfy specific logistics requirements.

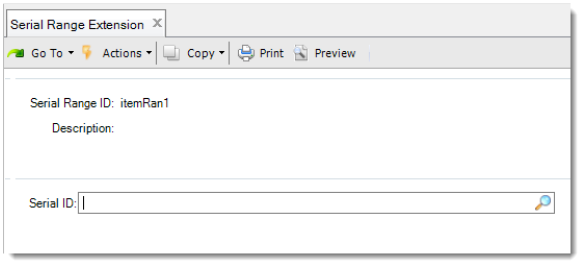
To import serial IDs, follow these steps:

1 Specify the serial range ID.

Note The system validates the serial range ID that you enter against Number Range Maintenance. Make sure that *Internal* is not selected for it in Number Range Maintenance and that the target dataset is `serial_id`.

2 Define the imported serial ID within the range.

Fig. 3.5
Importing Serial IDs



You can remove imported serial IDs as long as they have not been used. Also, you can delete the serial range, as long as no serial IDs in the list have been used and the range itself has not been used in Serial Range ID Maintenance. When you delete an unused serial range, the system removes all serial IDs in the range.

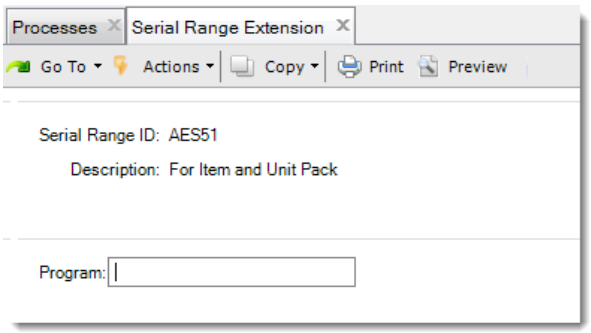
To customize a serial range to include a custom segment in the NRM value, follow these steps:

1 Specify the serial Range ID.

Note The system validates the serial range ID you enter against Number Range Maintenance. Make sure that it is marked as *Internal* in Number Range Maintenance and that the target dataset is `serial_id`.

2 In the Program field, enter the custom program name.

Fig. 3.6
Customizing a Serial ID Range



When a serial ID is required for a specific serial ID range, the system first checks whether the serial ID range is defined in Serial Range Extension.

- If not, the system generates the serial ID according to the type values defined in Number Range Maintenance.
- If yes and the serial ID range is external, the system uses an imported serial ID.
- If yes and the serial ID range is internal, the system generates a value according to the definition in NRM first. Then the system calls the custom program to create a custom value. Finally, the system concatenates the NRM value and the custom value as the serial ID.

Maintaining Serial ID Range

Use Serial ID Range Maintenance (13.14.19) to define different serial ranges and specify which serial ID range to use. You can set up a range of serial IDs by site, address, item number, or pack code.

You can leave the site, address, item, and pack code fields blank and then enter the serial ID range.

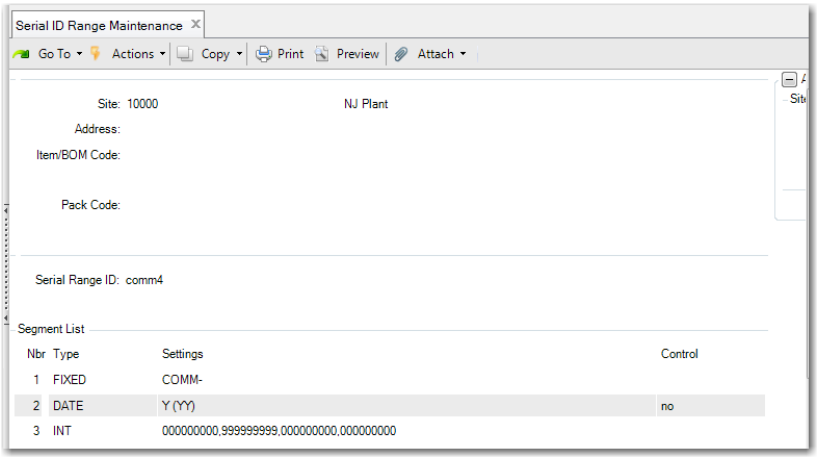
Note Make sure that the dataset of the serial range ID that you enter is *serial_id*.

After you enter the serial ID range, the system displays the Segment List frame. In the Segment List frame, the system displays the last used sequence number.

For functions that generate serial IDs or validate serial IDs, the system performs in the following ways:

- When a new serial ID is needed, the system first checks the imported serial ID ranges and then regular ones in NRM. If an effective matching can be found, the system gets the unused serial ID and marks it as used.
- The system verifies whether a serial ID is generated from imported serial ranges. When an imported serial ID is added to the serial master, the system marks it as used.

Fig. 3.7
Serial ID Range Maintenance (13.14.19)



Site. Enter the site where inventory is manufactured or stored.

Address. Enter a valid supplier for purchased materials, a valid site address for distribution orders, or a valid customer ship-to or sold-to for goods sold.

Item/BOM. Enter the item number associated with the serial ID range. It can also be a BOM code.

Pack Code. Enter the pack code associated with the pack sequence. When blank, the system can use the sequence for any pack code, regardless of whether it is for an item serial ID or a pack code. When both item/BOM and Pack Code are blank, you can use the serial ID range for any pack or any item.

Serial Range ID. Enter a valid sequence ID that the system uses when it creates this serial ID range. Make sure that you predefine the sequence ID in Number Range Maintenance with the serial_id. The system looks for a matching serial range ID in the following order:

a Pack code, item/BOM code, address, site

b Pack code, address, site

c Pack code, item/BOM code, site

d Pack code, site

e Pack code, item/BOM code, address

f Pack code, item/BOM code

g Pack code, address

h Pack code

i Item/BOM code, address, site

j Item/BOM code, site

k Item/BOM code, address

l Item/BOM code

m Address, site

n Address

o Site

p All fields are blank

Setting Up Packaging

Use the programs in the Packaging Setup Menu (13.14) to perform the tasks described in:

- “Defining Pack Codes” on page 28
- “Defining BOP Codes and Packaging Structure” on page 30
- “Assigning BOP Codes” on page 32
- “Defining Label Formats” on page 34

You should have the following defined before you set up packaging:

- Items and serial control set up in Item Master Maintenance (1.4.1)
- Inventory items defined in Item Master Maintenance
- Product structures defined in Product Structure Maintenance (13.5)
- Transaction types defined for the site/address in Transaction Type Maintenance (4.7.1)

Defining Pack Codes

Pack Code Maintenance (13.14.1) lets you define pack codes for pallets, shippers, cartons, and so on. You can set up pack codes for any type of packaging. You use pack codes to define the type of packaging and help define the way items and inventory are stored to facilitate warehouse and logistics activities.

In the first frame, enter the pack code and, optionally, a description.

Note In some reports, only the description appears for the pack code and not the pack code itself.

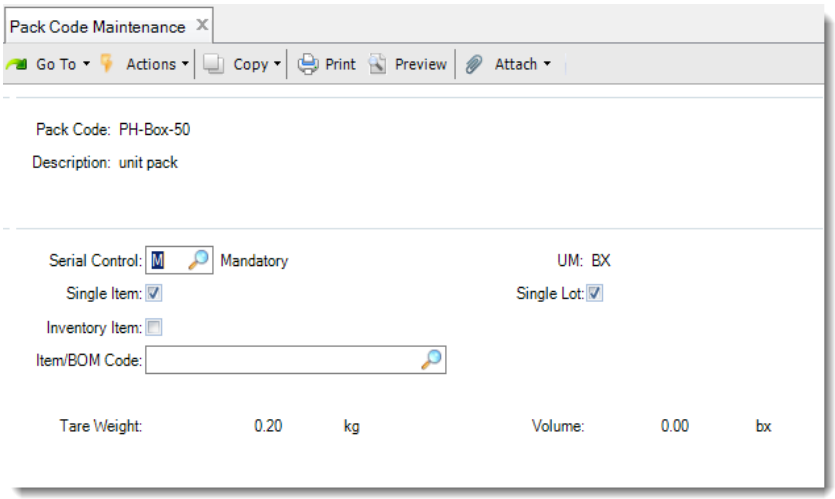
In the following frame, define pack characteristics by specifying serial control, UM, single item, single lot, inventory item, and item/BOM code.

When the pack is an inventory item, the system defaults the tare weight and UM and volume and UM. When a serial ID uses the pack code, you cannot change the UM.

Deleting a Pack Code

To delete a pack code, enter the pack code that you want to delete in Pack Code Maintenance. Press Enter or click the Next button, and you can see the Delete button displayed. Click the Delete button to delete the pack code.

Fig. 3.8
Pack Code Maintenance (13.14.1)



Pack Code. Enter a pack code for a pallet, shipper, carton, pouch, or blister.

Description. Optionally, enter a description of the pack code.

Serial Control. Define whether this pack needs to be serialized.

M: Mandatory. The pack is required to have a serial ID. The default is mandatory.

N: Never. When this pack code is used, these are never serialized.

Note You can override the N value in Packaging Structure Maintenance so that the pack code can be serialized when used by a particular BOP.

Single Item. Specify No when the pack can hold different items. The default is Yes.

UM. Enter the unit of measure of the pack.

Single Lot. Specify No when the pack can hold items from different lots. For any pack, if Single Item is set to No, the setting of Single Lot does not have an impact on packaging transactions. The default is Yes.

Inventory Item. Specify Yes if you want the pack to be associated with an inventory item. The default is No.

Item/BOM Code. Enter the item code of the pack. Specify a BOM code in case of multiple items to be consumed when the pack is used. When Inventory Item is Yes, system uses this field to consume the pack item. If it is blank when Inventory Item is Yes, it means the item is the same as the pack code.

Tare Weight/UM. Enter the tare weight and unit of measure of the packaging container. If this pack is an inventory item, this value defaults from the item ship weight.

Volume/UM. Enter the volume and unit of measure of the packaging container. If this pack is an inventory item, this value defaults from the item volume.

Defining BOP Codes and Packaging Structure

Use Packaging Structure Maintenance (13.14.4) to:

- Define bill of packaging (BOP) codes and packaging structures that include packaging levels.
- Delete a BOP code.
- Delete the pack/content relationship from the packaging structure.

A BOP code determines the way goods are packaged and stored after inbound and production receipts. BOP defines the way items are packaged as a single-level or a multiple-level packaging structure.

The lowest-level pack is the unit pack. The unit pack is the pack whose content is an inventory item. The highest-level pack is the master pack. When multiple packaging levels are in use, the master pack packaging type contains another pack (not an inventory item) that gets assembled in this pack. For example, an inventory item is stored in a box that is put into a case, which is then put on a pallet for storage and shipment. In this example, the box is the unit pack and the pallet is the master pack. A pack code is created for each level of packaging (box, case, and pallet) and the packaging structure is defined to describe the relationship between the pallet and the case, the case and the box, and the box and the item.

Navigation

To create a BOP code, use the following procedure:

In the first frame, enter the BOP code, and optionally, enter a description. Enter the effective period for the BOP code, then define the margin percentage of additional serial IDs to allocate if you require additional quantities.

In the next frame, define packaging structure. All hierarchy levels are listed in this frame. Level is display only as the system determines the level of the pack/content relationship in the packaging hierarchy. The outmost pack is level 1.

Example You have the following packaging structure:

1 Case = 50 pieces of Product A

1 Pallet = 70 cases of Product A

You define a BOP structure with two levels as:

Level: 1

Pack Code: Pallet

Content: Case

Qty Per: 70

UM: Case

Level: 2

Pack Code: Case

Content: A

Qty Per: 50

UM: EA

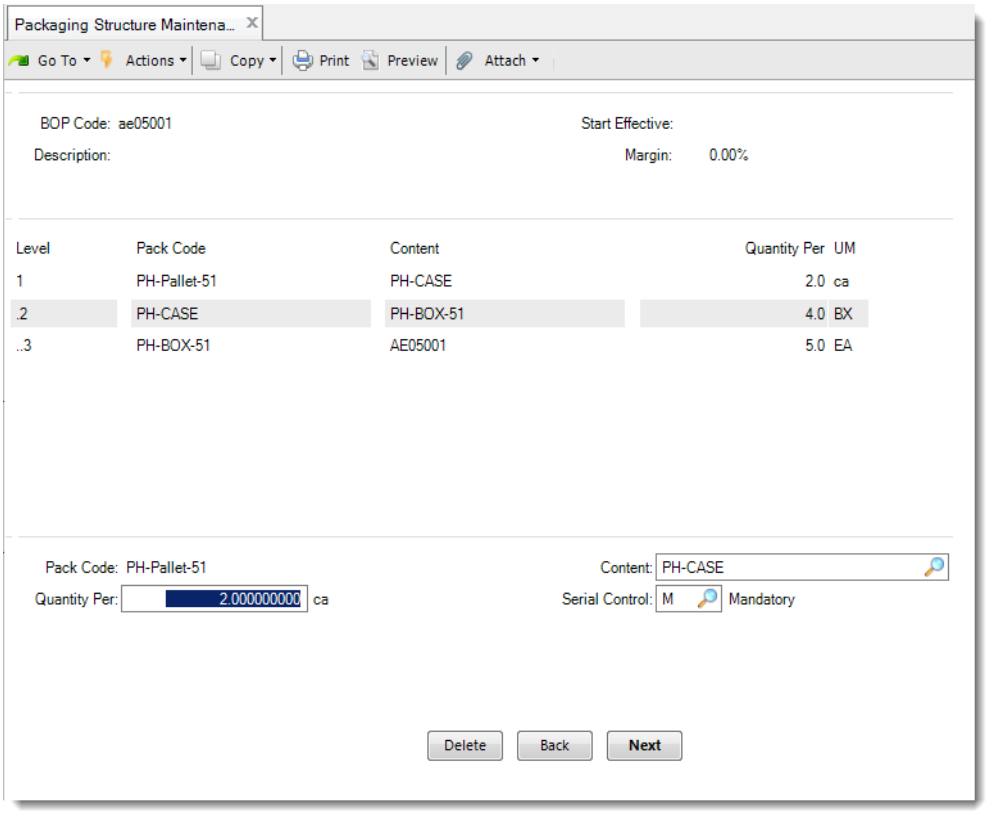
Deleting Codes and Structures

To delete a BOP code, after you enter it in the BOP Code field, click Next. Then you can see the Delete button displayed. Click the button and confirm the deletion.

To delete a pack/content relationship, go to the details of this level and move the cursor into the the Quantity Per field. Then you can see the Delete button displayed. Click this button and confirm to delete the pack/content relationship. When you remove the relationship, the system recalculates levels in the packaging structure.

You can use Packaging Structure Browse (13.14.5) to view packaging structure data.

Fig. 3.9
Packaging Structure Maintenance (13.14.4)



BOP Code. Identify a packaging hierarchy from the inventory item to the highest-level pack.

Start Effective. Enter the first day the packaging structure is effective. A packaging structure is effective over a defined period of time. Use effective dates to phase in packaging structure changes. Blanks are allowed.

Description. Optionally, enter the description of the BOP code.

Margin. Enter the margin percentage of additional serial IDs to allocate if you require additional quantities to cover any eventual scrap of numbers or have a greater range of numbers to select from for randomized serial ID assignments. For example, enter 10 if you think that you may require an additional 10 percent of serial IDs.

Pack Code. Enter the unit pack code that contains inventory items or assembly packs that hold other packs. This pack could be a content pack of the upper-level assembly pack.

Content. Specify the content that the parent pack contains. This can be an inventory item, unit pack, or assembly pack. If the parent is a unit pack (lowest-level pack), a blank is allowed, meaning any item can be put into this packaging structure.

Quantity Per. Enter the quantity of the content that the parent pack holds. UM is the unit of measure of content and is display only.

Serial Control. Define whether the parent pack requires serialization.

M: Mandatory. The serial ID is mandatory for the pack.

N: Never. When this pack code is used, these are never serialized.

The value for this field defaults from Pack Code Maintenance.

Assigning BOP Codes

Use Item Packaging Maintenance (13.14.7) to link BOP codes with:

- Item
- Site
- Partner
- Transaction type

The combination of domain/item/site/partner/transaction type determines the BOP code to use.

In the BOP structure, you relate the hierarchy to a specific item; that is, you define the content of the lowest-level (unit) pack. With Item Packaging Maintenance, you specify which default BOP structure the system uses with receipts. Item Packaging Maintenance lets you specify the site code, the address code, or a transaction type when packaging rules differ by site, ordering, receiving, or shipping address, or depending on the transaction type.

For transaction types, a partner can be either a supplier (purchased materials), a customer (goods sold), or a site (distribution orders). Receipt transaction types are typically unplanned receipts, purchase receipts, or production order receipts.

You can leave site, partner, and transaction type blank to define a common BOP code for any site, any partner, and any transaction type. When Site, Address, and Transaction Type have values, the system looks for a matching BOP code in the following order:

1 Item, transaction type, address, site

2 Item, transaction type, address

3 Item, transaction type, site

4 Item, transaction type

5 Item, address, site

6 Item, site

7 Item, address

8 Item

9 Site, transaction type, address

10 Site, transaction type

11 Site, address

12 Site

13 Address, transaction type

14 Address

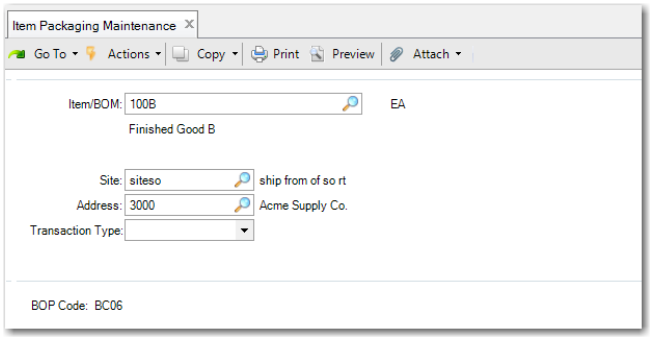
15 Transaction type

16 All fields not specified

When you require alternate BOP structures for a specific combination, you define the BOP structure in Packaging Structure Maintenance; then, manually select the right BOP structure during the receipt—the pack-build transaction. For example, when goods are shipped for sea transport, but to expedite a delivery, you ship the goods by air, an alternate packaging structure might be required.

Use Item Packaging Browse to view item packaging data.

Fig. 3.10
Item Packaging Maintenance (13.14.7)



Item/BOM. Enter the item or BOM code with which you want the system to associate a BOP code.

Site. Enter the site associated with the BOP code.

Address. Enter a valid address or site as the partner associated with the BOP code. The system applies the same restrictions that you define when you specify transaction type restrictions for items, depending on the item status.

Transaction Type. Enter the transaction type associated with this BOP code. This can include inventory transactions as well as other transactions defined. The system applies the same restrictions that you define when you specify transaction type restrictions for items, depending on the item status. You can specify more than inventory transactions; for example, when you apply Serialization to released work order goods.

BOP Code. Enter the BOP code for the item. The system looks for the BOP code in the following order:

a Item, transaction type, address, site

b Item, transaction type, address

c Item, transaction type, site

d Item, transaction type

e Item, address, site

f Item, site

g Item, address

h Item

i Site, transaction type, address

j Site, transaction type

k Site, address

l Site

m Address, transaction type

n Address

o Transaction type

p All fields not specified

Defining Label Formats

Using Serialization label functions, you can perform the tasks described in:

- “Defining Label Formats per Pack” on page 35
- “Defining Item Label Formats” on page 36

You define label formats using Label Format Maintenance (36.13.16.1.9). In Label Format Maintenance, you define a code that links to a label template; you define the label template using Label Template Maintenance (36.13.16.1.7). The system links the label template to a template file that a third-party tool, such as Loftware, generates.

Third-party tools help label designers create the label layout and generate a label template file, and as stated, the system links the template file to the label format. During printing, the system looks at the label format and determines which template file to use. The system fills in data based on the template file, then sends the file to the third-party tool. The third-party tool generates the proper label before sending the label to the printer.

Defining Label Formats per Pack

Use Pack Label Format Maintenance (13.14.13) to define a label format code for a specific packaging type. You define here which label format code to use by site, pack code, address, BOP code, and/or item number.

You can define primary and secondary label format codes by site, pack code, address, BOP code, and/or item, and combinations of these. When you enter a new combination, the system creates a new record. When you enter a pack code, the system defaults the primary label format from the pack code data.

For both primary label format and secondary label format, the system follows the priority to find a non-blank value.

You can leave all fields blank to define common label formats for the whole domain. When you do, the system looks for matching label formats when you optionally print a label that generates in the transaction. Use Pack Label Format Report to view pack label format data.

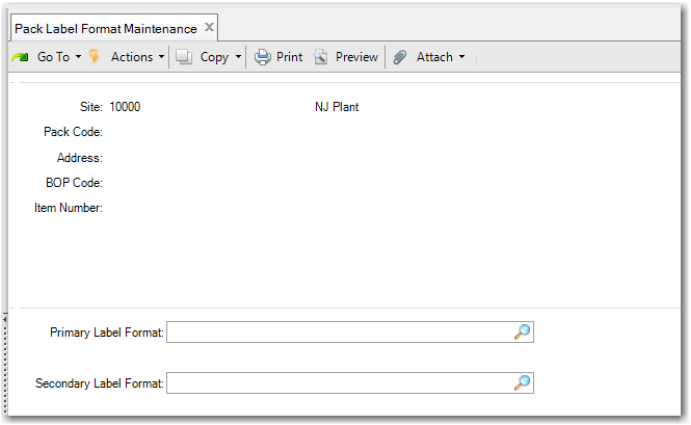
Note You can print without transactions; for example, by using Label Print by Serial ID. When you do, the system first displays the default format by using the order listed below, and you can optionally select another format to print.

When you print the label, the system determines the format according to the following order:

1. Site, pack code, address, BOP code, item
2. Site, pack code, address, BOP code
3. Site, pack code, address, item
4. Site, pack code, address
5. Site, pack code
6. Site
7. Domain (all fields are blank)

Use Pack Label Format Report to view pack label format data.

Fig. 3.11
Pack Label Format Maintenance (13.14.13)



Site. Enter the site at which the system uses the label formats.

Pack Code. Enter the pack code for which the system uses the label formats.

Address. Enter a valid address or site as the partner associated with the label formats.

BOP Code. Enter the BOP code in which the pack code is included.

Item. Enter the item number that the pack contains.

Primary Label Format. Enter the primary format for the label. For transactions that can print labels for packs, the system looks for this label format for the pack, based on site, pack code, address, BOP code, item combination.

Secondary Label Format. Enter a format to use when printing labels. The system looks for both primary and secondary label formats in these functions—based on site, pack code, address, BOP code, item combination—and prompts you to choose one.

Defining Item Label Formats

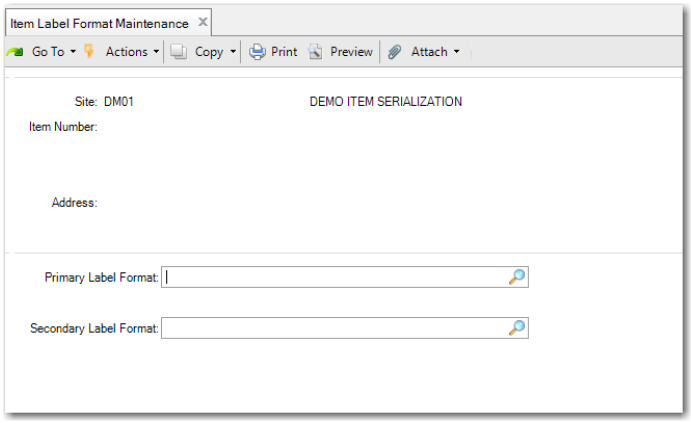
Use Item Label Format Maintenance (13.14.16) to define label format codes for specific inventory items. You can define primary and secondary label format codes for a specific inventory item by site, item, or address.

You can leave all fields blank to define common label formats for the entire domain. When you do, the system looks for a matching label format when you optionally print a label that generates in the transaction. The system matches label formats in the following order:

Site + Item + Addr > Site + Item > Site > Domain (All fields are blank).

For both primary label format and secondary label format, the system follows the priority to find a non-blank value.

Fig. 3.12
Item Label Format Maintenance (13.14.16)



Site. Enter the site in which the system uses the label formats.

Item Number. Enter the item number to which the label formats apply.

Address. Enter the partner associated with the label formats. It must be an existing address or site.

Primary Label Format. For transactions that print labels, the system attempts to find this label format for the pack based on site, pack code, address, BOP code, and/or item.

Secondary Label Format. The system uses this format when printing labels. The system attempts to find both primary and secondary label formats in these functions based on site, pack code, address, BOP code, and/or item, then prompts you to choose one.

Chapter 4

Serialization Processing

This chapter discusses the following topics:

Introduction

When processing POs, SOs, DOs, or WOs, you use the license plate inventory management and item serialization capabilities during receipts, production, inventory, and shipping. The following table depicts basic processing steps and shows you how Serialization functions, particularly packaging, play a role in the processing.

Table 4.1
Packaging Material During Order Processing

Process/ Transaction	Steps and Serialization Involvement
Inbound Receipts	• Goods are received in cases in the raw materials warehouse. • Sales order goods are returned. • Pallets are unloaded from a supplier's truck to verify that the receipts match an ASN. • Depending on supplier or item, cases are serialized and labeled during receipts process.
Production	• Cases of raw material are moved to shop floor. • Production BOM contains packaging material to be issued during backflush. • Backflush receipts done by pack, item. • Correct (reverse) backflush receipts, if needed. • Issue WO components by pack. • Once production is completed, leftover raw materials transfer back to raw materials warehouse.
Inventory	• Finished goods are transferred by pallet or another package type to finished goods warehouse. • Packaging transactions occur, using Pack Build, Pack Commission, Pack Remove, Pack Decommission, or Pack Merge. • Cycle counts are performed for serialized items, packs, and so on. • Physical inventory is counted, pack tags are created, and inventory balances are updated. • Inventory is scrapped when needed.
Shipping	• Picking (decommissioning any type of packaging from pallet plus stock transfer). • Packing, using Pallet Build or Containerization. • Verify that packs of a pre-shipper/shipper have been physically loaded into the truck. • Optional returnable containers (pallet is inventory). • Purchase order goods are returned.

The following topics follow the flow presented in Table 4.1. Within each major processing transaction category—that is, inbound receipts, production, and so on—Serialization programs that pertain to the transaction are described. The descriptions include program and field descriptions, examples, and screen captures. For setup information, see Chapter 3, "Setup," on page 21.

Inbound Receipts

Serialization functions are a part of the process when you perform an inbound receipt for POs, PO shippers, or DOs. You can also receive through unplanned receipts. The following discusses inbound receipts by the following topics:

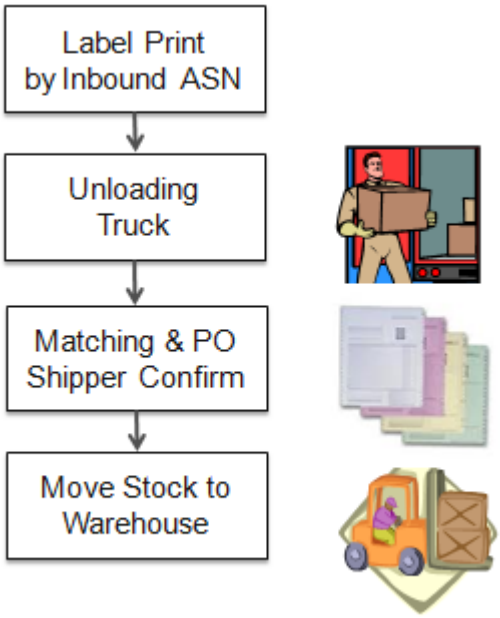
- "Receiving Goods" on page 41

- “Unplanned Receipts” on page 50
- “Subcontract Inbound Receipts” on page 56

Receiving Goods

You can receive goods to be serialized from either POs (or supplier scheduled orders), PO shippers, or DOs. Typically an inbound ASN is received. The general flow, using Serialization, is as follows:

Fig. 4.1
Receive Goods Flow



When the truck arrives, staff unload the goods. They can scan the packs based on a predefined matching list, which is based on ASN documents from the supplier. The matching list lets them match what is unloaded with the supplier’s list of goods sent. Typically, matching consists of scanning and checking:

- Item and quantity
- Item, lot, and quantity
- Pallet IDs
- Box IDs
- Entire pack information, including the contained inventory

Information accuracy and label accuracy are important. Shop floor and warehouse staff use the labels and information. The following present examples for receiving serialized goods:

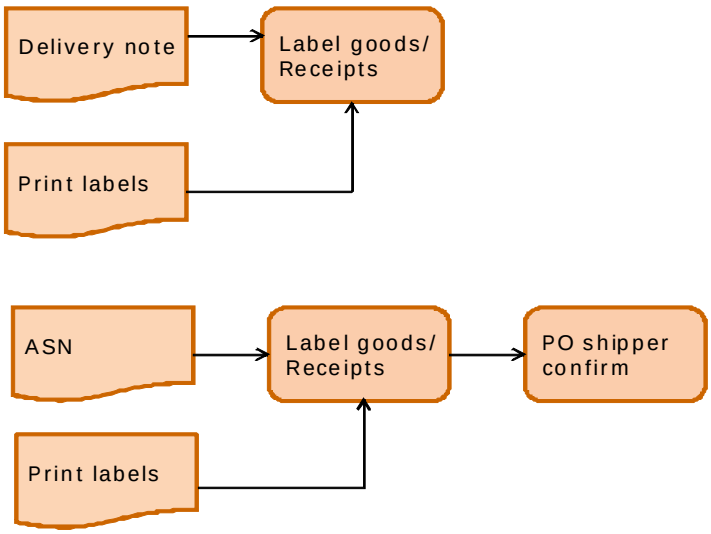
- You receive shrink-wrapped pallets. The pallet content—the IDs for case, pallet, items, lot, and the quantities—was sent in advance through the ASN. You are only required to verify that the number of pallets unloaded matches the number of pallets on the ASN and their serial IDs. When verified, you can approve the receipts.

- You receive item, lot, and quantity data from the supplier and only labels with item, lot, and quantity information. You need labels for boxes, too. So you print box labels beforehand, based on predefined packaging structures and ASN data. Or when the goods are unloaded, you print and attach labels to the box based on predefined packaging structures, and then scan the unique ID number, generating a pending receipt. Once all material is unloaded or labeled, you can choose to match the ASN data against the physically received inventory.

Once finished, you can move stock in the warehouse. When ASNs are not received, you can unload, but you cannot match during the receiving process.

The following graphic depicts the flow for PO (or supplier scheduled orders) and PO shipper receipts.

Fig. 4.2
PO Shipper Receipt Process



Programs to Use for POs/PO Shippers

The following topics describe both QAD EA and Serialization programs that you use when receiving.

1. Create packs and print labels based on PO (or supplier scheduled orders) or PO shipper using Pack Create by PO/Shipper (5.13.12.3).
2. Unload for the order, using:
   - Match Level Maintenance (5.13.12.1) to define match level by supplier or ship-to combination when receiving goods
   - Pending PO Shipper Unload (5.13.12.13) to capture information of physically received goods by packing slip or by PO shipper ID
   - PO Shipper Receipt to receive goods from PO into the inventory
3. Make corrections using PO Corrections in QAD ERP.

You can view all packs and items serial IDs for an inbound shipper, inbound PO receipt, or packing slip so that you can view shipper contents at any time. You can view pack and item data when you confirm a PO shipper or PO packing slip using PO Shipper Receipt or Pending PO Shipper Unload. The system displays the entire hierarchy from the master pack to the item serial ID.

For information on QAD ERP receipt-related programs, refer to *QAD Purchasing User Guide* for Enterprise Edition. Only Serialization receipt-related programs are described in the following topics.

Note Unplanned receipts, using Pack Receipt Unplanned (3.17.13), although not a step in the PO or PO shipper receipt process, are also described in the following topics, after discussions on receiving goods.

Programs to Use for DOs

You can receive packs and print labels for inventory receipts from DOs and transfer goods by serial IDs from in-transit sites to a user-specified site using site DO Receipt by Pack. See “DO Receipt” on page 53.

Match Level Maintenance

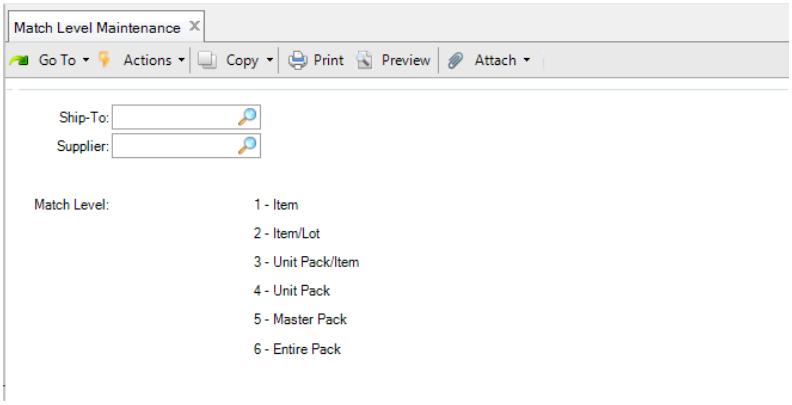
Use Match Level Maintenance (5.13.12.1) to define a match level by supplier, ship-to, or their combination when receiving goods. You can set a default match level for shippers that come from a specific supplier and ship to a specific site.

The match level value determines the receiving level when unloading goods; for example, it dictates whether you only scan the master pack or scan each pack’s serial ID during receipt. The system displays the default match level value when you match the actual unloading data with the ASN received.

Leave Supplier blank to define the match level for shippers that ship to a specific site, regardless of the supplier. Leave supplier and ship-to blank to define a common match level for the login domain.

Use Match Level Browse to view match level data.

Fig. 4.3
Match Level Maintenance (5.13.12.1)



Ship To. Enter a ship-to code to define a match level for shippers that ship to this site, or leave blank for all ship-to sites.

Supplier. Enter a supplier to define a match level for shippers that come from it, or leave blank for all suppliers.

Match Level. Enter a value that defines the default match level:

1: Item

2: Item, lot

3: Unit pack, item

4: Unit pack

5: Master pack

6: Entire pack

Pack Create by PO/Shipper

Use Pack Create by PO/Shipper (5.13.12.3) to create packs and print labels based on PO or PO shipper.

You can create packs and print labels by PO or PO shipper before you physically receive goods. You can create packs for discrete POs or supplier scheduled orders.

Note When the PO line is a subcontract line, you cannot create packs with this function. When you try, the system displays an error message. Use Work Order Serial Booking or Pack Create by WO to create packs for the corresponding discrete WO. Use Pack Create by Production Line to create packs for the corresponding cumulative order.

Navigation

This program contains several frames.

In the PO/Shipper Information frame, you enter the supplier, shipper ID or a packing slip number, order, and line number. The system displays the item and ship-to. Enter the quantity to pack.

In the Receipt Data frame and Serial ID frame, the system displays receipt data and lot/serial numbers. The system prompts you to create packs by pack code or BOP code. When you specify P(ack), the system displays the Pack Data frame. When you specify B(op), the system displays the BOP Code frame. The default BOP code is from Item Packaging Maintenance.

In the Pack Data frame, the system displays the unit pack code, quantity per, and UM from unit pack/item level of the BOP structure. You enter pack data in this frame to create packs by pack code. The system creates new packs, using the pack information in this frame.

If Serial Control of the unit pack is set to Never in Pack Code Maintenance, the system attempts to locate the higher-level pack. The system multiplies the per quantity and displays the pack code description.

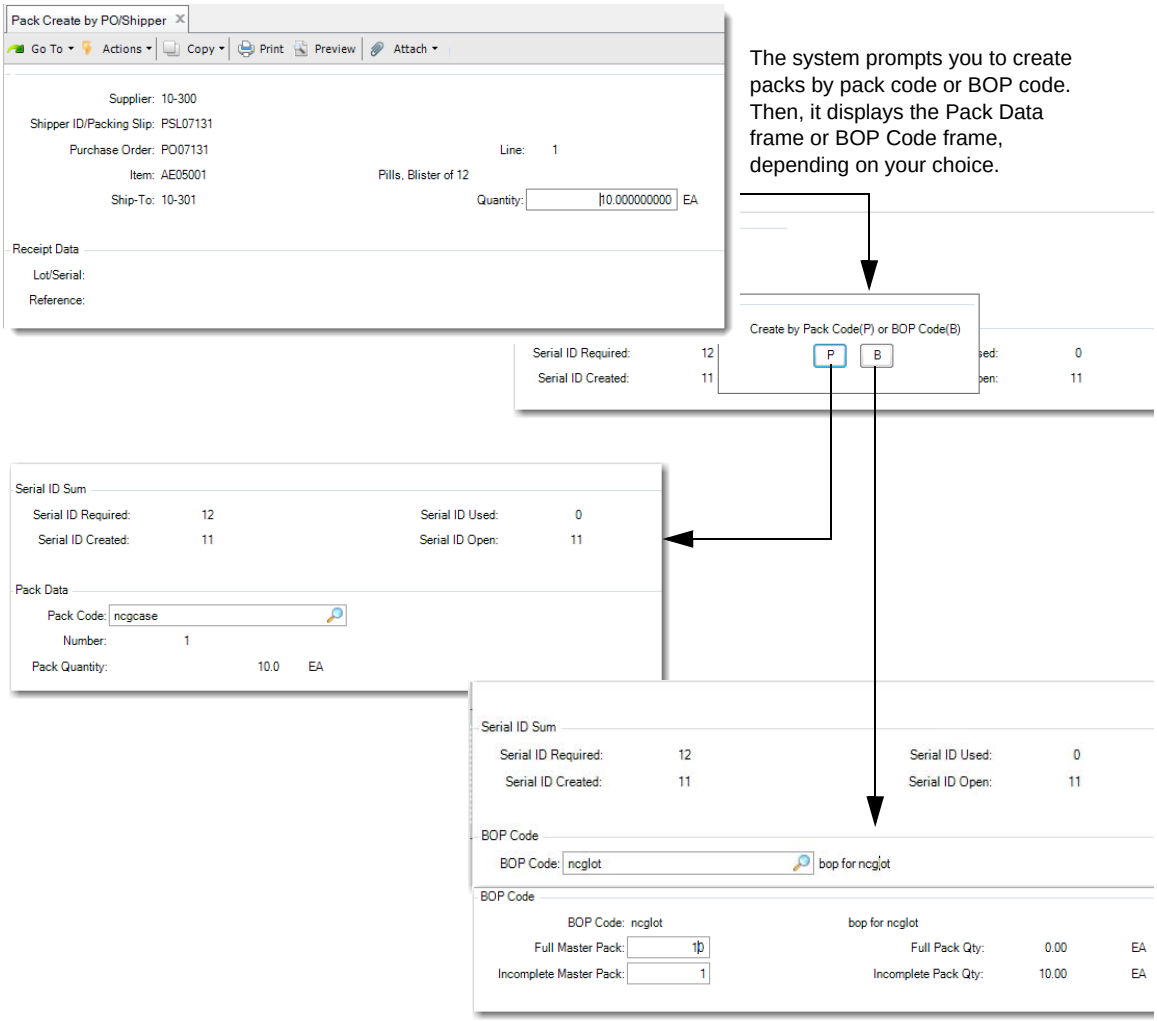
In the BOP Code frame, you enter the BOP code to create packs by BOP code. After you press Enter, you can enter the number of full or incomplete master packs.

When the entered incomplete master pack quantity is zero and you press Enter, the system prompts you to display serial IDs created. Select Yes and the system displays the Serial List frame, which shows you the levels, pack codes, From serial IDs, and numbers.

When incomplete master pack quantity is not zero and you press Enter, the system displays the Pack Configuration frame before prompting you to display serial IDs created. This frame shows you the levels, pack codes, numbers, contents, quantity in the pack, and UM.

Click Next and the system informs you that it created serial IDs. If the Label Printing module is installed, you are prompted to print the created serial IDs.

Fig. 4.4
Pack Create by PO/Shipper (5.13.12.3)



Supplier. Enter the address code of the supplier who sent the shipper document.

Shipper ID/Packing Slip. Enter the PO shipper for which the system creates serial IDs. If there is no PO shipper, you can enter a packing slip number. When blank, the system creates packs for PO lines.

Purchase Order. Enter the PO or a supplier scheduled order for which the system creates serial IDs.

Line. Enter the PO line for which the system creates serial IDs.

Quantity. When you create packs for a discrete purchase order, the system defaults the value in this field from the open quantity on the PO line. When you create packs for a supplier scheduled order, the system defaults the value here from the open quantity of the supplier schedule order line. When you create packs for a PO shipper, the system defaults the value from the quantity to receive for the specified PO line that is included in the PO shipper.

Pack Code. Enter or accept the pack code the system uses to create the serial ID. The default is from the lowest-level serialized pack. Typically, this pack is the unit pack. When you set the Serial Control field in Pack Code Maintenance of the unit pack to Never, the system locates the upper level of the BOP structure with a serial control that is not set to Never.

You can enter an assembly pack code. You can enter blank when the Serial Control field is set to M. When blank, the system processes it as item serialization and ignores the pack quantity and UM.

Number. Enter the number of packs to create. You cannot enter a negative number. The default is based on the Quantity value you enter in the first frame and the item quantity in the specified pack level in the BOP structure.

Pack Quantity. Enter or accept the expected quantity to hold in the pack. You cannot enter a negative number. The default is the quantity per in the specified pack level in the BOP structure.

Pack Quantity UM. Enter the UM of the content to hold in the pack. The default is from the item UM. When you specify an assembly pack code, make sure that the entered value is a pack UM.

BOP Code. Enter or accept the BOP code. The default is from Item Packaging Maintenance and is based on item, site (ship-to), address (supplier), and transaction type (RCT-PO).

Full Master Pack. Enter the number of full master packs.

Incomplete Master Pack. Enter the number of incomplete master packs.

Pending PO Shipper Unload

Use Pending PO Shipper Unload (5.13.12.13) to capture information of physically received goods by packing slip or by PO shipper ID.

Note It is possible for multiple users to unload at the same time for the same packing slip or PO shipper ID; however, only one user can confirm the shipper. The system displays an error when a user attempts to confirm the shipper and other users are unloading goods.

When an ASN is in use, you can compare actual received goods information with the ASN. You can compare at the following levels:

- Item
- Item/lot
- Master pack
- Unit pack
- Unit pack/item
- Entire pack

When the system successfully matches the ASN, you can confirm the shipper using Pending PO Shipper Unload.

Note The system does not capture item serialization data during unloading. If the unloaded item is mandatorily serial controlled, the system generates item serial IDs automatically during the transaction.

Returns

You can use this program to return serialized packs to suppliers by entering negative quantities in Pending PO Shipper Unload. You enter the serial IDs to be returned for the shipper/packing slip. You can also enter a unit pack, assembly pack, and item serial ID. The pack to be returned must be Active; see Table 4.3 on page 64.

Navigation

This program contains several frames.

In the PO Shipper frame, you enter PO shipper information or packing slip. When you enter a valid PO shipper ID, the system displays the default match level. When you enter a packing slip number, the matching process does not happen for this shipment.

In the Parent/Child Pack frame, you enter the serial ID of the unloaded pack. The ID can be an existing or new ID.

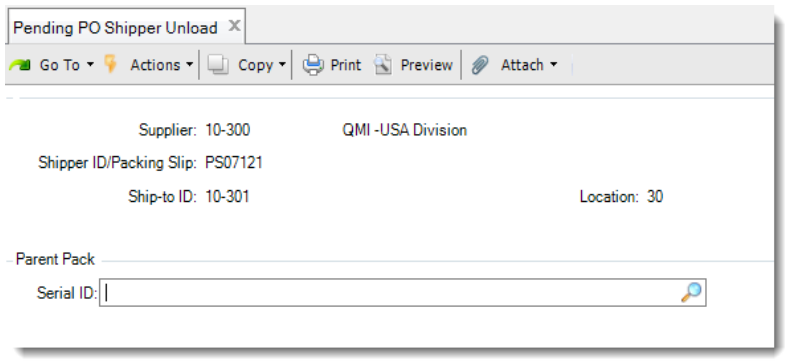
In the Purchase Order Line frame, you enter the PO (or supplier scheduled order) line and pack quantity. This frame displays only when you have inventory data. When the system copies ASN inventory data, the copied data displays in this frame.

When you enter a shipper that does not have an ASN, you are required to build the entire serial hierarchy.

When the serial ID has been printed, you can only enter the quantity. All other fields are display only once you print the serial ID.

In the Match Level frame, you can select another match level besides the default value before you confirm.

Fig. 4.5
Pending PO Shipper Unload (5.13.12.13)



Supplier. Enter the ID of the supplier who sent the shipment. The ID defaults from the last record the system accessed.

Shipper ID/Packing Slip. Enter the PO Shipper ID of this shipment. If the value entered is not a valid shipper in PO Shipper Maintenance, the system treats the ID as a packing slip number and does no matching for this shipment. This number defaults from the last record the system accessed.

Since multiple users can enter the same shipper ID (packing slip) at the same time and generate unloading transactions, you can leave the unloading process and return to it later to finish the transaction. That is, when you unload some packs, then leave this function without confirming the shipper, the system does not undo the unloading. When you return to this function, you can continue unloading; however, you do not repeat scanning the previous unloading packs.

Ship-to ID. Enter the address code to which this shipment is delivered. Blank is not allowed.

Location. Enter the location where you receive the goods. Depending on the defined match level, you are required to follow specific steps:

Match Level = 1 (item)/2 (item, lot)/6 (entire pack): Manually enter all information of the unloaded pack, including the parent pack, child pack, inventory, and PO (or supplier scheduled order) line information.

Match Level = 3 (unit pack, item): Enter the unit case serial ID and the item and PO line information. When there is a parent serial ID of the unit case in the ASN and the system selects this match level, the system does not copy parent information from the ASN.

Match Level = 4 (unit pack) or 5 (master pack): Scan the serial ID of the related level; the system copies content from the ASN.

Serial ID. Enter the serial ID of the parent pack.

You can scan the serial IDs that are not included in the ASN.

Item Number. Enter the item number contained in the unit case. The value defaults from the item number of the specified serial ID.

Quantity. Enter the quantity of the item contained in the unit case. If the specified serial ID is in the ASN, the value defaults from its inventory quantity. If the specified serial ID is in the New stage, the value defaults from the defined pack quantity of the serial ID.

Site. Enter the site where you receive the pack. The default is the site you enter in the PO Shipper frame. You can specify another value when you store packs in multiple sites; however, serial IDs belong to one master pack and you must have the same site/location.

Location. Enter the location where you receive the pack. The default is the location you enter in the PO Shipper frame. You can specify another value when you store packs in multiple locations; however, serial IDs belong to one master pack when you have the same location.

Printed. This field indicates whether the label of the scanned serial ID printed or not. When the label scanned printed correctly, the inventory data item, site, lot/serial, and reference print, and you cannot change this field. When you decommission a serial ID, the system resets this field to No.

Gen Item Serial. Specify Yes to have the system automatically create item serial IDs.

Lot/Serial. Enter the lot/serial number for the item.

Ref. Enter the reference number for the item.

Supplier Lot. This field indicates the supplier lot of the inventory. When this field is editable, you can enter the supplier lot during receipt.

Purchase Order/Line. Enter the PO (or supplier scheduled order) and line for which the serial ID ships. The default displays from the ASN. You can enter either a discrete PO or a supplier scheduled order. Make sure that the specified PO line has the same ship-to ID as the current PO shipper.

Item Number. This field is display only and defaults from the PO line.

Qty to Pack. Enter the number of items in the serial ID that packed for the entered PO line. The default is the quantity from the ASN.

Match Level. Select from the following match levels. The system performs validations. The default value is determined from the matching level records as defined in Match Level Maintenance.

Item: Match is successful when the unloaded item number is consistent with ASN data and the quantity of each PO line is equal to the ASN data. Whether you pack in the expected pallet does not affect the matching.

Item/Lot: Match is successful when the unloaded item number is consistent with ASN data and the lot quantity of each PO line is equal to the ASN data, regardless of whether you pack in the expected pallet.

Master Pack: Match is successful when the master serial ID scanned during unload is consistent with the one in the ASN. When the system matches at this level, the system only considers the master pack level. When you scan a Master Pack ID and the system matches data in the ASN, the system assumes that all lower-level packaging and inventory data is correct, and therefore, considered as unloaded. You cannot select this option when the received ASN does not contain pack information.

Unit Pack: Match is successful when all serial IDs of the unit pack are consistent with the ones in the ASN. The system considers the content of the unit pack to be correct when it matches the serial ID of the unit case. You cannot select this option when the received ASN does not contain pack information.

Unit Pack/Item: Match is successful when the unit pack serial ID scanned during unloading is consistent with the one in the ASN and the number of the items/lot for each PO line in the unit pack is the same. You cannot select this option when the received ASN does not contain pack information.

Entire Pack: Match is successful when all the unloaded data is the same as the ASN, including the quantity of each unit pack, quantity of each lot, serial ID of each pack, and the relationship of each parent-child pack. You cannot select this option when the received ASN does not contain pack information.

Note If the imported ASN does not include pack information, only the Item and Item/Lot options are available. In this scenario, the system matches the receipt only at item or item/lot level.

When matching is successful, you can confirm the shipper using this unload program. The system displays a message indicating that the shipper is matched and prompts you to confirm to receive.

When matching fails, the system displays a message indicating that a discrepancy exists and prompts you to print a report. Once the report displays, the system displays a warning and prompts you to continue to receive. When you respond with Yes, you can receive the shipper/packing slip, according to the unloaded data.

Deleting Purchase Order with Associated Serial IDs

You can use any of the following functions to delete a purchase order:

- Purchase Order Maintenance
- Closed PO Delete/Archive
- Supplier Scheduled Order Maint

When a purchase order is deleted, the system deletes the new serial IDs associated with it. If they are imported serial IDs, they remain in the import list of serial IDs and the system sets the Used field to No for them. The system also creates serial history records with Type, Begin Quantity, Quantity Change, and Stage set to PCK-DEL, Zero, Zero, and Blank respectively.

Unplanned Receipts

Note For unplanned receipts of non-serialized inventory, use QAD EE Receipts-Unplanned (3.9).

Use Pack Receipt Unplanned (3.17.13) in the Serialization Inventory Transaction menu to build both single-level and multiple-level packs and then receive them in this transaction or for pending receipts. You can load inventory to pending pallets without breaking down the pack structure.

Using Pack Receipt Unplanned, you can:

- Create unit packs.
- Create unit packs and assembly packs.
- Build lower-level packs on an existing parent pack.
- Receive serialized items as loose inventory.

The following topics provide more information on these functions.

Creating Unit Packs

You can create unit packs, and then load inventory to the created unit packs.

Select No when the system prompts you to build the pallet. Leave the unit pack serial ID blank, then enter the inventory data. You can enter additional data and the BOP code. When prompted to create a pack, select Yes. The system generates the serial ID for the unit pack.

When you keep clicking the Back button, the system prompts you to receive all the pending packs of this location.When you confirm the receipt, the system returns to the first frame that lists site and location.

Creating New Unit Pack and Assembly Pack

You can also create a unit pack and an assembly pack, then build the unit pack on the assembly pack. You can then load the inventory into the unit pack and load the unit pack into the assembly pack.

To do this, you select to build a pallet when prompted, and leave both parent pack and unit pack serial IDs blank. Then you enter a BOP code and the inventory data. When prompted to create a pack, select Yes. The system then generates the serial ID for the unit pack and the serial ID for the assembly pack. The inventory is loaded into the unit pack and the unit pack is loaded into the assembly pack.

Note When the item to be received is set to mandatory serial controlled in the item master, the system prohibits receipt using the QAD EE Unplanned Receipts program.

Build Lower-Level Packs on an Existing Parent Pack

You can use Pack Receipt Unplanned to build lower-level packs on an existing parent pack. To do this, you select the existing assembly pack, then create a new lower-level pack or use the serial ID that the system already created using pack create functions. You then load inventory into the unit pack and build the lower-level pack on its parent.

Receiving Serialized Items As Loose Inventory

You can also use Pack Receipt Unplanned to receive serialized items into a specific site and location as loose inventory. Set the Gen Pack Serial field to No, and when prompted to build a pallet, select No. Leave the unit pack serial ID blank, and enter the BOP code. In the Inventory Data frame, enter the item number, quantity to receive, and lot/serial information. When prompted to create a pack, select No. If you select the Gen Item Ser field, the system creates the serial IDs pending receipt. If you do not select that field, you are required to specify *New* item serial IDs that were previously created or printed.

Generating Serial IDs According to Pack Code

When you set Gen Pack Serial to Yes, the system generates a number of serial IDs, according to:

- Pack code
- Standard pack quantity
- Number of full packs you enter

If you set Gen Pack Serial to No, when you create new unit packs and assembly packs, you can create only one unit pack and one assembly pack each time, regardless of the quantity to receive. The system automatically generates the unit pack and assembly pack serial IDs according to this BOP code.

Navigation

Begin by entering the site and location in the header. When pending packs exist in the location you enter, the system prompts you to receive all pending packs for the location. When you respond with No, the system lets you create new pending packs.

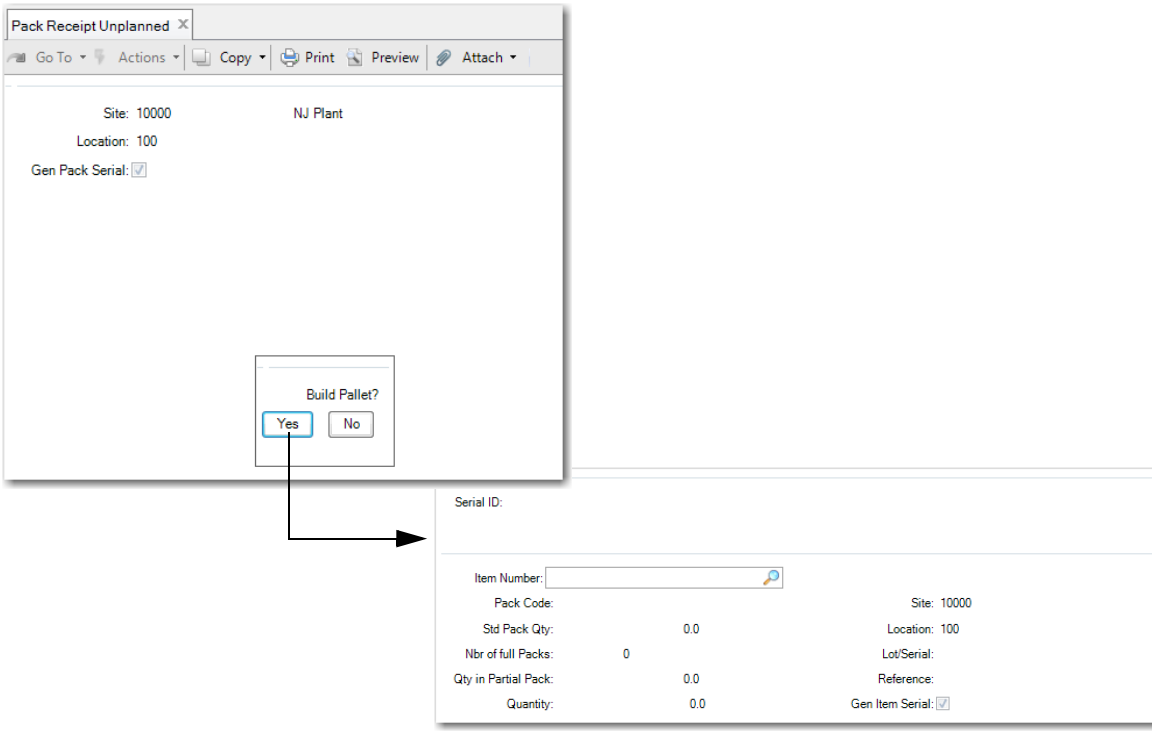
Note The Build Pallet program controls whether one-level or two-level unit boxes are created. The Gen Pack Serial field in Serialization Pack Receipt Unplanned controls the way to create pending packs. When you respond with Yes to Gen Pack Serial, the system generates pack serial and item serial IDs automatically by entered receipt data. When you respond with No, you scan or generate pack serial IDs manually.

When you respond with Yes to receive all pending packs, the system receives all pending packs of the location into inventory and ends the transaction.

After details display and you confirm that details are correct, the system displays the Additional Data frame for you to enter order information. Once completed, you can receive the packs.

Note Serial IDs can be imported from external systems.

Fig. 4.6
Pack Receipt Unplanned (3.17.13)



Site. Enter a valid site where items are stored. You cannot leave this field blank.

Location. Enter a valid location where items are stored.

Gen Pack Serial. Indicate Yes for the system to generate pack serial and item serial IDs automatically by entered receipt data. Otherwise, enter No to scan or generate pack serial IDs manually.

Item Number. Enter the item stored in the pack. When you enter a valid serial ID, this field is display only. When the Serial field is blank or does not exist in the system, you can edit this field to determine the pack sequence ID.

Pack Code. This field is display only and shows the pack code.

Std Pack Quantity. Indicate the number of items in a standard pack.

Nbr of Full Packs. Enter the number of full packs to receive.

Qty in Partial Pack. Enter the number of items to receive in the partial pack.

Ref. Enter a reference for the item. When the serial ID label has printed, Ref is display only.

Gen Item Serial. Indicate Yes to automatically generate serial IDs for each inventory unit. The system only generates when you set the Serial Control field to M(andatory) in Item Master Maintenance to specify whether inventory units are serialized.

When Yes, the system generates serial IDs and displays the total number created. When No, you are required to manually enter item serial IDs.

Serial ID. Enter the serial ID for the parent pack or leave blank to generate serial IDs.

Lot/Serial. Specifies the lot number of the item held in the pack. The quantity displays in the read-only Quantity field.

Order. Enter a valid sales, work, or purchase order number for the transaction. The order number can also display a valid RMA/RTS number, or any other user-defined value.

Sales/Job. Enter the order number referenced to inventory transaction.

Address. Enter the address for this transaction.

Effective Date. Enter the general ledger (GL) effective date for this transaction. The default is the system date.

DO Receipt

Use Distributed Order Receipt by Pack (12.9.13) to record the receipt of inventory from DOs and transfer goods by serial IDs from in-transit sites or locations to the other sites or locations.

QAD EE Distributed Order Receipt Versus Distributed Order Receipt by Pack

When you use Distributed Order Receipt (12.15.20), note the following:

- The system displays an error message, informing you to use Distributed Order Receipt by Pack when:
  - All items of the selected DO are set for mandatory serial control.
  - Mandatory serial control is set and you edit the order line for an item with serial control.
  - When items on the order are not serialized, and you use the QAD EE DO receipt program to receive or check loose items in the in-transit location, then you enter a quantity that is greater than the quantity of the loose inventory in the in-transit location.
- When Use Shipment Information is Yes and there is an item with mandatory serial control, the system only warns you to use Distributed Order Receipt by Pack to receive the item. The system sets the quantity to receive to zero on the order line; however, you can still receive other non-serialized items of this distributed order using the QAD EE DO receipt program.
- When you use multiple databases and an item is set for mandatory serial control in the supply site and non-serialized in the demand site, you can receive items using QAD EE Distributed Order Receipt. When you do, the system:
  - Consumes the serial IDs of the item in the in-transit database

- Does not create serial IDs in demand database
- Receives loose non-serialized items

Also, when you store the serialized pack/item in an in-transit location that is linked with a DO, note the following:

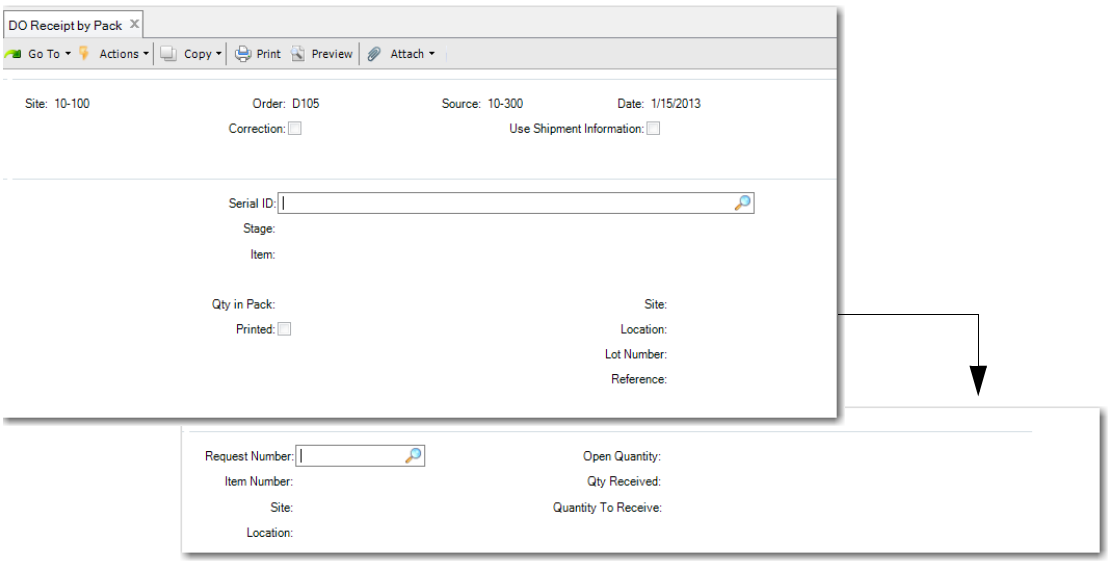
- The serial ID cannot be an input serial ID for use in the following Serialization programs.
  - Pack Build
  - Pack Remove
  - Pack Transfer
  - Pack Receipt
  - Pack Issue Unplanned
- You cannot return the serial ID using Purchase Order Returns by Pack.
- You cannot pick the serial ID using Pre-Shipper/Shipper Picking, Pre-Shipper/Shipper Pack Build, or Pre-Shipper/Shipper Workbench.

Navigation

This program has several frames:

1. In the Order Selection frame, enter the demand site, distributed order ID, and supply site for the distributed order. You can optionally specify to use shipper information. When you do, the system displays a Shipper ID field to enter the shipper number.
2. In the Serial ID frame, you enter the serial ID of items to receive. When Use Shipment Information is Yes, the system defaults serial IDs from the shipper and DO. You can click Back to receive by the default serial IDs. You can leave the serial ID blank. Refer to the field help for Serial ID for more information.
3. In the Distributed Order Line frame, you specify the request ID for the serial ID to receive.

Fig. 4.7
Distributed Order Receipt by Pack (12.9.13)



Site. Enter the site at which you receive the items on this distributed order.

Order. Enter the distributed order number to be received.

Source. Enter the site from which the items on this distributed order were shipped.

Date. Enter the effective date of the receipt. The default is the system date.

Correction. Indicate whether the items on this distributed order are returned for correction or received:

Yes: This distributed order is a return transaction. When Yes, items will be returned to the in-transit site/location from where they are stored.

No: This distributed order is a receipt transaction. When No, you can receive items to the demand site/location from the in-transit site/location. The default is No.

Use Shipment Information. Indicate whether to use the serial IDs shipped for the order.

Yes: You do not need to manually enter serial IDs in this function to receive; the system defaults the serial IDs previously shipped for this order and shipper (if specified). The Shipper ID field displays when set to Yes to specify the shipper to receive.

No: The system does not default serial IDs, and you are required to manually scan or enter the serial IDs to receive.

In the following situations, only when you set Use Shipment Information to Yes, you can receive the items or packs:

- There are non-serialized loose items that are linked with the DO shipper and the items are not mandatorily serial controlled in the demand site.
- There are unit packs that hold items of multiple combination of item, lot, and reference.
- There are assembly packs that contain items directly packed into them without being first packed into unit packs.

Shipper ID. Enter the shipper ID for this receipt. This field displays only when Use Shipment Information is set to Yes. You can specify a shipper to receive or leave it blank to receive items for the order when the order ships by multiple shippers. The system adds serial IDs of all shippers with this DO to the receiving list.

Serial ID. Enter the serial ID to receive.

When Use Shipment Information is Yes, the system defaults serial IDs from the shipper and DO. You can use the arrow keys to browse through serial IDs. Click Back to receive by the default serial IDs. Also, you can remove the loaded serial IDs from the receiving list. When you enter an *Aggregated* item serial ID that is in the receiving list, the system validates whether its parent pack is picked for multiple DO requests. When Yes, the system prompts you to remove its parent pack from the receiving list. And if the stage of this parent pack is *Aggregated*, the system also removes the parent pack from its master pack. Then the system prompts you to remove the item serial ID from its parent. If you respond with Yes, the system decreases the quantity in pack of its parent pack. When the parent pack is empty after removal, the system decommissions the parent pack.

Leave blank only to receive from a different domain when the items are set for mandatory serial control in the demand location and neither the serialized packs or items are in the in-transit location.

Item. Enter the item number to receive. You can enter items only when you leave the serial ID field blank.

Req. Enter the intersite request for the receipt of this distributed order.

Item Number. The system displays the item number of the request.

Site. Specify the demand site. The system receives the serial IDs you enter in this site. The default is the header site.

Location. Enter the location for items to receive.

Quantity Open. The system displays the open quantity of the select request, calculated as the Qty Ordered minus the Total Qty Received.

Qty Received. The system displays the cumulative quantity of all the scanned serial IDs for the selected request in this transaction.

Qty to Receive. Enter the number of items in the scanned pack to receive for the selected request. This field is read-only for scanned serial IDs for an assembly pack or item.

Subcontract Inbound Receipts

You can create packs when a PO (or supplier scheduled order) line is for a subcontract order. For a subcontract PO line, you create packs for the corresponding discrete WO. You can use Pack Create by Production Line to create packs for the corresponding cumulative order.

You can use Pending PO Shipper Unload to unload end items when the subcontract operation is the last operation of a repetitive schedule.

When the subcontract operation is for a discrete work order, regardless of whether it is the last operation, the system treats the order as a WIP item. You are required to use Pack Receipt by WO to build the pack structure.

The following table denotes the program to use or not use, subcontract scenarios, and processing that occurs for each program for the scenario.

Table 4.2
Subcontract PO Line Processing

Program	Processing Information
Pack Create by PO/Shipper (5.13.12.3)	**Important:** You cannot create packs with this function.
Work Order Serial Booking (16.15.1)	You can use this program to create packs for subcontract PO (or supplier scheduled order) lines.
Pack Create by WO (16.15.2)	Use this program to create packs for the corresponding discrete WO.
Pack Create by Production Line (18.22.7.1)	Use this program to create packs for the corresponding cumulative order.

Program	Processing Information
Pending PO Shipper Unload (5.13.12.13)	Use this program when the PO (or supplier scheduled order) line is subcontract as it supports unloading end items. When the subcontract operation is the last operation of a repetitive schedule, the item can be unloaded with this function. You cannot enter a subcontract PO line when: • The operation is not the last operation. • The PO line is linked with a discrete WO. When the subcontract operation is the last operation of a repetitive schedule: • The system generates serial IDs for the pack or item based on the corresponding cumulative work order when you leave any pack or item serial ID blank. • The system validates serial IDs based on the cumulative order and copied from ASNs.
Pack Receipt by WO (16.15.3)	Use this program to build a pack when the subcontract operation is for a discrete work order and the last operation. The system treats the item as a WIP item and builds the pack.
PO Shipper Receipt (5.13.20)	The system does not apply Serialization functionality when the PO line is subcontract and: • The operation is not the last operation. • The PO line is linked with a discrete WO.
Purchase Order Receipts (5.13.1)	The system does not apply Serialization functionality when the PO line is subcontract and: • The operation is not the last operation. • The PO line is linked with a discrete WO. When the subcontract operation is the last operation of a repetitive schedule and you: • Leave any pack or item serial ID blank, the system generates serial IDs based on the corresponding cumulative work order but not the PO line. • Enter a pack or item serial ID, the system validates serial IDs based on the corresponding cumulative work order.

Returns

You can use Serialization functions when you return serialized shipped packs for a sales order, purchase order, or DO.

The following topics discuss:

- SO Returns
- PO Returns
- Kit Component Returns
- DO Returns

You can do a return for a deleted sales order; see “Deleting SO Lines with Associated Serial IDs” on page 146.

SO Returns

When processing the returns of serialized inventory shipped to customers, you typically take the following steps:

1. Use Pre-Shipper/Shipper Picking (7.8.1) to attach the serial IDs that you want to return to the return pre-shipper/shipper.
2. Use Pre-Shipper/Shipper Confirm (7.9.5) to confirm the return pre-shipper/shipper.

The following topics discuss in detail both Serialization and existing QAD EE programs to use for SO (or customer scheduled order) returns, and the processing and other necessary information for you to return packs or loose serialized items.

SO Picking for Return Pre-Shipper/Shipper

When returning shipped goods that use Serialization, use Pre-Shipper/Shipper Picking (7.8.1) to attach the serial IDs that you want to return to the return pre-shipper/shipper.

The pre-shipper or shipper used for the returned packs or items is called a return pre-shipper or shipper. You can specify an existing pre-shipper or shipper, or leave the Number field blank to generate a new pre-shipper/shipper as the return pre-shipper/shipper. Make sure that the return pre-shipper/shipper has the same Ship-From and Ship-To as the original shipper that was used when the pack or item was shipped out.

You can return assembly packs, unit packs, or item serial IDs. When you enter the serial ID, make sure of the following:

- The serial ID specified is either consumed or aggregated on a consumed pack.
- The serial ID was not previously shipped for a consignment SO line or a consignment customer scheduled order line.
- The serial ID is not linked with any other return pre-shipper/shipper.

Note If the serial ID specified is linked with the current return pre-shipper/shipper, the system prompts you to remove it from the return list. If you select Yes, the system removes the serial ID from the current pre-shipper/shipper. And if the original shipper and SO lines are not deleted or closed, the system links the serial ID back to the original shipper and SO lines with original quantity. This feature allows you to correct possible mistakes during the return process.

In the Sales Order Line frame, specify the SO lines you want to use for the return and the quantity to pick. When entering SO lines, you can specify unclosed SO lines for which the pack or items were shipped out. Optionally, you can specify a new SO line that has the same item, ship-to, and site as the original SO line with *negative* order quantity. But corrected SO lines are not supported. When entering the quantity to pick for returns, make sure that you enter a *negative* number in the Quantity to Pick field. The absolute value of the cumulative quantity that you enter cannot be greater than the quantity in pack.

After picking, the stage of the returned serial ID remains Consumed, but the serial ID gets linked with the return pre-shipper/shipper. All the lower-level packs of the serial ID also become linked with the same return pre-shipper/shipper.

Returning Items

You can return items that existed in any of the following forms when they were originally shipped out:

- Loose serialized items on the shipper

  To return such items, in the Serial ID field, enter the item serial ID. Then in the SO Line frame, specify the SO line for return.

- Serialized items that are aggregated on a master unit pack

  To return discrete items, you are required to remove them from the master unit pack. In the Serial ID field, enter the item serial ID. When prompted to remove the item from its parent, specify Yes.

  If the master unit pack contains items of multiple combinations of item, lot, and reference, you can return all the items of the same combination of item, lot, and reference at the same time. In the Serial ID field, enter the serial ID of the unit pack. Then enter the item, lot, and reference to indicate the inventory that you want to return. When prompted to remove the inventory from the unit pack, specify Yes. In the SO Line frame, specify the SO line and quantity to pick data. The system prompts you to enter SO lines until all the quantity of the same combination of item, lot, and reference is assigned.

- Serialized items that are aggregated on an assembly pack but not in a unit pack

  To return discrete items, you are required to remove them from the master assembly pack. In the Serial ID field, enter the item serial ID. When prompted to remove the item from its parent, specify Yes.

  If you want to return all the items of the same combination of item, lot, and reference at the same time, first enter the serial ID of the assembly pack. Then enter the item, lot, and reference to indicate the inventory that you want to return. When prompted to remove the inventory from the assembly pack, specify Yes. In the SO Line frame, specify the SO line and quantity to pick data. The system prompts you to enter SO lines until all the quantity of the same combination of item, lot, and reference is assigned.

- Non-serialized items in a master unit pack

  If the master unit pack contains items of multiple combinations of item, lot, and reference, you can partially or fully return non-serialized items of the same combination of item, lot, and reference. In the Serial ID field, enter the serial ID of the unit pack. Then enter the item, lot, and reference to indicate the inventory that you want to return. When prompted to remove the inventory from the unit pack, specify Yes. The system removes the specified inventory out of the unit pack. In the SO Line frame, specify the SO line and quantity to pick data. The absolute value of the cumulative entered quantity to pick can be less than the quantity of the specified inventory. Then items of the specified quantities are linked with the return pre-shipper or shipper.

  If the master unit pack contains non-serialized items only, and the items are of a single combination of item, lot, and reference, you can also return all or part of the items. But, in this case, the items are returned with the unit pack. In the Serial ID field, enter the serial ID of the unit pack. Then in the SO Line frame, enter the SO line and quantity to pick data. The absolute value of the cumulative entered quantity to pick can be less than the quantity in the pack. The system removes the remaining quantity from the unit pack. Also see the note on page 60.

- Non-serialized items that are aggregated on an assembly pack but not in a unit pack

To return non-serialized items aggregated on an assembly pack but not in a unit pack, you are required to return all the items of the same combination of item, lot, and reference at the same time. In the Serial ID field, enter the serial ID of the assembly pack. Then enter the item, lot, and reference to indicate the inventory that you want to return. When prompted to remove the inventory from the assembly pack, specify Yes. In the SO Line frame, specify the SO line and quantity to pick data. The system prompts you to enter SO lines until all the quantity of the same combination of item, lot, and reference is assigned.

Returning a Unit Pack

If the unit pack was shipped out for multiple sales order lines, you cannot return the whole pack directly by entering its serial ID under the following circumstances:

- This unit pack is a partially returned pack, and the remaining items are of multiple combinations of item, lot, and reference.

  A partially returned unit pack is a unit pack whose lower-level items have been partially returned.
- This unit contains multiple items, and one of the original sales order lines is closed or deleted.

In these scenarios, to return the unit pack, first in the Serial ID field enter the serial ID of the unit pack. Then enter the item number, lot, and reference information to indicate the inventory that you are returning. When prompted to remove the specified inventory from the unit pack, specify Yes. In the SO Line frame, enter the SO line and a negative quantity to pick. You are required to pick all the quantity of items with the same item number, lot, and reference. Then the inventory is removed from the unit pack and attached to the return pre-shipper or shipper. When the unit pack is reduced to contain a single combination of item, lot, and reference, you can enter the unit pack serial ID to directly pick the whole unit pack. Then the unit pack is attached to the return pre-shipper or shipper.

If a unit pack contains only serialized items of a single combination of item, lot, and reference, and is partially returned, you cannot return the unit pack, either. You can only return the remaining items in it one by one to return the whole pack. See “Returning Items” on page 59.

For all other scenarios, to return the whole pack, directly enter the serial ID of the unit pack in the Serial ID field. If the unit pack contains items of multiple combinations of item, lot, and reference, the Item Number, Lot/Serial, and Reference fields are editable. Leave them blank to directly pick the whole unit pack. In the SO Line frame, enter the SO line and quantity to pick to return the whole unit pack. But, when the pack is not partially returned and was originally shipped for a single SO line that is now not deleted or closed, the SO Line frame is disabled. The pack is automatically returned to the original SO line.

Note When the unit pack contains only non-serialized items of a single combination of item, lot, and reference, the absolute value of cumulative entered quantity to pick can be less than the quantity in pack. The system removes the remaining quantity from the unit pack and updates the Quantity in Pack value for the unit pack.

Returning an Assembly Pack

If the assembly pack was shipped out for multiple sales order lines, you cannot return the whole pack directly by entering its serial ID under the following circumstances:

- This assembly pack is a partially returned pack.

A partially returned assembly pack is an assembly pack whose lower-level packs or items have been partially returned.

- This assembly pack contains multiple items, and one of the original sales order lines is closed or deleted.

In these scenarios, to return the whole assembly pack, you are required to return all the lower-level packs and items.

- If the assembly pack now contains lower-level items, first in the Serial ID field enter the serial ID of the assembly pack. Then enter the item number, lot, and reference information to indicate the inventory that you are returning. When prompted to remove the specified inventory from the assembly pack, specify Yes. In the SO Line frame, enter the SO line and quantity to pick data. The system prompts you to enter SO lines until all the quantity of the same combination of item, lot, and reference is assigned. Repeat the process to return all the lower-level items.
- If the assembly pack now does not contain lower-level items, in the Serial ID field, enter the serial ID of a lower-level pack. When prompted to remove it from the master assembly pack, specify Yes. Then in the SO Line frame, enter the SO line. For lower-level unit packs, you are required to enter quantity to pick data. The system prompts you to enter SO lines until all the quantity of the unit pack is assigned. Repeat the process to return all the lower-level packs.

For all other scenarios, to return the whole pack, directly enter the serial ID of the assembly pack in the Serial ID field. Then in the SO Line frame, enter the SO line only to return the whole assembly pack. But, when the pack is not partially returned and was originally shipped for a single SO line that is now not deleted or closed, the SO Line frame is disabled. The pack is automatically returned to original SO line.

Removing Return Pre-Shipper/Shipper

After you pick serial IDs for a return pre-shipper/shipper, it is possible that you want to remove the pre-shipper/shipper before confirming it. When you do so, the system removes the serial IDs from the return pre-shipper/shipper, and links them back with the original shipper and SO lines when they are not deleted or closed. You can later pick them for another return pre-shipper/shipper.

Confirming Return Pre-Shipper/Shipper

Use Pre-Shipper/Shipper Confirm to confirm the return pre-shipper or shipper. Then the return pre-shipper or shipper is converted to a confirmed return shipper.

Note You cannot confirm a pre-shipper/shipper that only has pending pick lines for a serialized item.

After confirming the return pre-shipper or shipper, the stage of all returned serial IDs changes from Consumed to Active. The links between the return pre-shipper/shipper and the serial IDs are removed. The system creates corresponding serial history and shipping history. You can view the records through Serial History Browse and Shipping History Browse Collection.

Unconfirming Return Shippers

You can use Shipper Unconfirm to unconfirm the return shipper with serial IDs linked. But make sure that the structure of any linked serial ID has not changed. Otherwise, you are not allowed to unconfirm the return shipper.

After you unconfirm the return shipper, the system changes the stage of all linked serial IDs from Active to Consumed. Serial IDs are relinked with the return shipper.

PO Returns

You can return serialized ship packs to a seller. You can use the Serialization-added program Purchase Order Return by Pack to do this task. You can also use other Serialization and QAD EE PO programs to process returns.

Purchase Order Return by Pack

Use Purchase Order Return by Pack (5.13.12.16) to return items to the supplier by packs. In the Serial frame, you enter the serial ID of units, assembly packs, or item to return.

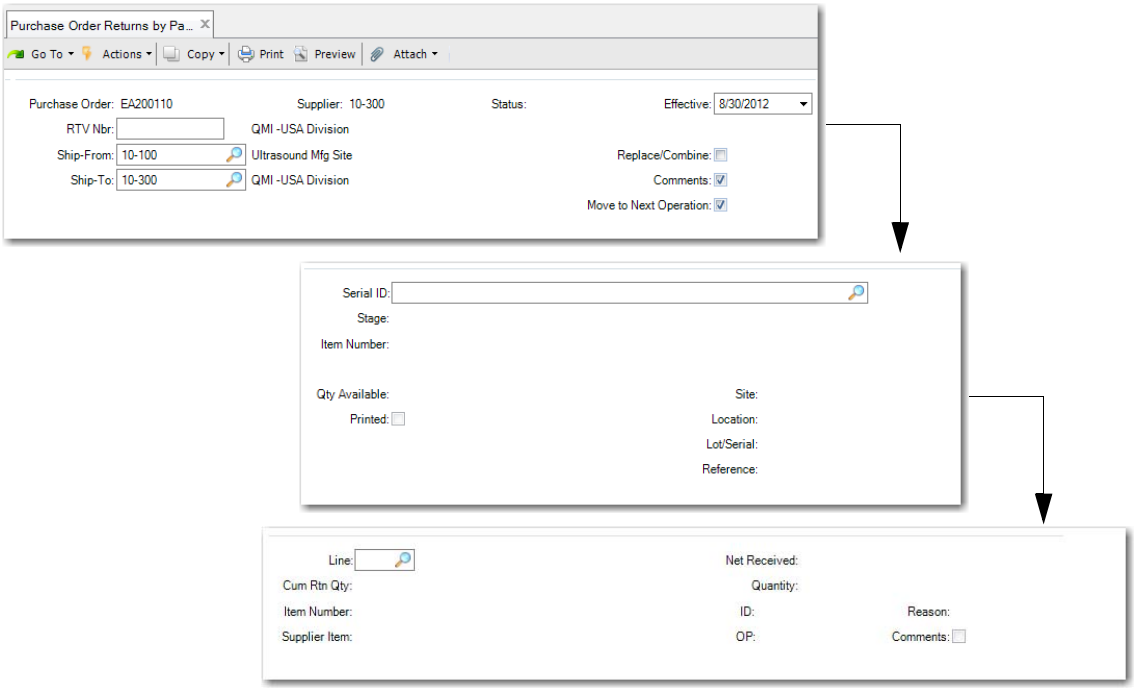
When you enter an active assembly pack that holds different items, you are required to scan individual lower-level packs that are included. Assign all lower-level packs to PO (or supplier scheduled order) lines before you confirm the return transaction; otherwise, remove them from the assembly pack or remove the assembly pack.

When the pack to return is an active assembly pack and holds a single item, you can scan the serial ID to return the entire pack. But you can only assign it to a single PO line. When the pack to return is an active unit pack or aggregated on an active assembly pack, you can assign it to different PO lines.

You can enter an active serial ID of the unit pack, assembly pack or item to return for the purchase order. You can enter PO line information and other return data in additional frames. You can optionally view the return quantities by lot detail.

The system changes the serial IDs to the Consumed stage once you confirm.

Fig. 4.8
Purchase Order Return by Pack



Pertinent fields are as follows:

PO Number. Enter the PO (or supplier scheduled order) number for which you are creating a return.

RTV Number. Enter a receiver number associated with the original received goods.

Ship From. Enter a valid ship-from address for the purchase order.

Ship To. Enter a valid ship-to for the purchase order.

Serial ID. Enter the unit, assembly pack, or item serial ID to return. The system displays the stage, item number, if applicable, quantity available, site, location, lot, and reference.

Line. Indicate the PO (or supplier scheduled order) line for the return.

Net Received. The system indicates the number of items previously received for the PO line. You cannot edit this field. The cumulative return quantity cannot exceed this quantity.

Cum Return Qty. Indicate the cumulative return quantity of the scanned packs in this transaction.

Quantity. The number of the items in the pack will be returned for the entered line.

Item Number. The system displays the item number of the PO line in read-only format.

Supplier Item. The system displays the related supplier item in read-only format.

ID. For a subcontract line item. Enter the cumulative order ID and operation. The default is from the line-item details on the PO. Return by serialized packs only supports a subcontract at the last operation (return WIP item is not allowed). The system updates the quantity complete at the WO operation.

OP. Enter the cumulative order ID operation. The default is from the line-item details on the PO. Return by serialized packs only supports a subcontract at the last operation. You cannot enter a return WIP item. The system updates the quantity complete at the WO operation.

Other PO Return-Processing Programs

You can use other existing Serialization or QAD EE programs for PO (or supplier scheduled order) return processing. The following table lists the programs and provides processing information.

Table 4.3 PO Returns—Programs and Processing

Program	Processing Information
Pending PO Shipper Unload (5.13.12.13)	You return serialized packs to the supplier with negative quantity. You can enter a unit pack, assembly pack, or item serial IDs to return for the shipper or packing slip. When the pack to return is an active unit pack, you can assign it to different PO lines. The Inventory Data frame is read-only and shows the current inventory of the unit pack. When it is an active assembly pack that holds different items, you scan the individual lower-level packs inside and assign them to the PO lines. Lower-level packs can only hold a single item. When already an active assembly pack that holds a single item, you can leave the child serial ID blank to return the whole pack. You can only assign a single PO line. You can specify child serial ID separately to assign PO line on each of them or assign multiple PO lines when the child serial ID is a unit pack. The system cannot build additional higher-level packs for the return serial IDs. When you leave the Serial ID field in the Parent Pack frame blank and enter an active serial ID as the child pack, the system does not generate a parent serial ID. For return packs, all information in the Inventory Data frame is display only. So, you are required to adjust the inventory or pack structure before the return. In the Purchase Order Line frame, you enter a negative quantity to pack for returns. Make sure that the item on the specified PO line is the same as the item in the pack to be returned. You can view all packs and items serial IDs for a return-to-vendor shipper. Pending PO Shipper Unload Report displays the entire hierarchy from master pack to the item serial ID and picking information. Kit components serial IDs are recorded and displayed; however, component serial IDs are not recorded and do not display. When a subcontract PO line is assigned, it can only be for the last operation for the production. The system updates the quantity complete at the WO operation after return. The system does not perform an ASN match for return packs. You can confirm the return in PO Shipper Receipt. The system changes serial IDs to the Picked stage in PO Shipper Unload, links to the shipper/packing slip, then confirms. Once confirmed, the serial IDs are consumed. Use Pending PO Shipper Unload to receive serial IDs that were previously returned to the supplier. When you scan a serial ID that is in the Consumed stage and not linked with any order or shipper, the system considers the serial ID as previously returned to the supplier, and the supplier shipped the pack back to you with the same or different goods. The system accepts the serial ID in both the Parent Pack and Child Pack frames. The system assigns the pack code, item number, site, location, and other values during the transaction. **Note:** When serial IDs are picked in Pending PO Unload but not yet confirmed, you cannot handle the items using Pack Build, Pack Remove, or Pack Issue Unplanned. You can, however, use Pack Transfer to move picked packs linked with purchase orders.

Program	Processing Information
PO Shipper Receipt (5.13.20)	Use PO Shipper Receipt to confirm the shipper/packing slip with a negative quantity. The system validates whether the return quantity is less than or equal to the net received quantity on each PO line. You cannot perform an over-return.
Purchase Order Returns (5.13.7)	You can only return loose items without serial IDs using this program. When you enter serialized items or the inventory of loose items is not enough but the same items exist in the pack, the system displays an error message. You are required to use the new Purchase Order Return by Pack function.

Kit Component Returns

To return kit components, you pick a consumed pack or a serialized item for a kit component using Pre-Shipper/Shipper Picking and confirm the return transaction in Pre-Shipper/Shipper Confirm.

When using Pre-Shipper/Shipper Picking:

- When you pick a consumed pack or item serial ID for a kit component, the system validates whether the item in the pack is a component of the kit item when you enter a sales order line for a kit item. When it is not an order line for a kit item, the system displays an error, informing you that the line is not an SO line.
- The system rebuilds the picked line for the kit item, sets the site to the ship-from, but leaves the location, lot/serial, and reference blank. The system does not generate allocation for the line. The system determines the quantity of the kit by the largest quantity of picked components and the negative quantity.
- You can confirm the pre-shipper/shipper.

DO Returns

You may want to return DO goods either when they are shipped to the In-Transit site or when they are received into the demand site/location. If you want to return DO goods after they are received into the demand site/location, you first return them into the In-Transit location and then return them from the In-Transit location to the supply site.

To return DO goods from the demand site/location to the In-Transit location, depending on the scenario, you can use DO Receipt by Pack (12.9.13) or Distributed Order Receipt (12.15.20).

- In the demand domain, use DO Receipt by Pack (12.9.13) to return pack serial ID or item serial ID from the demand site/location to the In-Transit location.

  When using DO Receipt by Pack to return a pack or item serial ID, select the Correction field to indicate that you are returning packs or items on a specified DO. After you finish the DO Request frame, you can see, for corrections, that the Qty Received and the Quantity to Receive are negative. After the correction, pack and loose item serial IDs are active in the In-Transit location and linked with the DO requests.
- In the demand domain, use Distributed Order Receipt (12.15.20) to return non-serialized loose inventory from the demand site/location to the In-Transit location.

When using Distributed Order Receipt to return non-serialized loose inventory, you specify a negative quantity for the DO request. After the correction, the system increases the non-serialized loose inventory of the item in the In-Transit location.

To return DO goods from the In-Transit location to the supply site, typically follow these steps:

1. In the supply domain, use Pre-Shipper/Shipper Picking (12.9.1) to attach the serial IDs that you want to return to the return pre-shipper/shipper.
2. In the supply domain, use DO Pre-Shipper/Shipper Confirm (12.19.13) to confirm the return pre-shipper/shipper.

DO Picking for Return Pre-Shipper/Shipper

Use Pre-Shipper/Shipper Picking (12.9.1) to attach the serial IDs that you want to return to the return pre-shipper/shipper.

You can specify an existing DO pre-shipper/shipper or leave the Pre-Shipper/Shipper ID field blank to generate a new pre-shipper/shipper as the return pre-shipper/shipper. Make sure that the return pre-shipper/shipper has the same Ship-From and Ship-To as the original pre-shipper/shipper that was used when the pack or item was shipped out.

If you enter a serial ID that is aggregated on an active master pack, select Yes when prompted to remove it from the master pack and link it with the return pre-shipper/shipper.

If the serial ID specified is linked with the current return pre-shipper/shipper, the system prompts you to remove it from the return list. If you select Yes, the system removes the serial ID from the current pre-shipper/shipper and clears the link with the DO request. So after unpicking, the serial ID is not linked with either a DO pre-shipper/shipper or a DO request.

After picking for the return, the system links the serial IDs with the return shipper with stages remaining Active in the In-Transit location. All the lower-level packs also become linked with the same return pre-shipper.

Returning Assembly Packs

To return an assembly pack from the In-Transit location to the supply site, in the Serial ID field, enter the assembly pack serial ID. The system retrieves the associated inventory details of the serial ID.

- When the serial ID is linked with DO requests, after picking, the system links the returned serial ID with the original DO requests. The linked DO requests can no longer be changed.

  In the lower frame, the system retrieves the linked DO request and picked quantity. Quantity to Pick is automatically set to negative.

  - If the assembly pack is linked with a single DO request, the system displays the DO request.
  - If the assembly pack is linked with multiple DO requests, the system displays the first DO request in the DO Request frame.

  You click Next and the system links the pack serial ID with the return DO pre-shipper/shipper. Inventory quantities of the linked DO requests become negative.
- When the serial ID is not linked with any DO request:

- If the pack contains single items, you are required to specify a DO request. Make sure that the entered DO request meets the following conditions:
  - The DO request has the same Ship-From and Ship-To as the current return pre-shipper/shipper.
  - The item on it is the same as the item in the specified pack.
  - The intersite request is not closed.
  - The In-Transit site/location of the entered DO request is the same as the site/location of the specified serial ID.

  Then the system links the pack serial ID to the specified DO request on the return DO pre-shipper/shipper. Inventory quantity of the linked DO request becomes negative.
- When the pack contains multiple items, you cannot directly return the whole assembly pack. The system prompts you to return lower-level packs.

Returning Unit Packs

To return a unit pack from the In-Transit location to the supply site, in the Serial ID field, enter the serial ID of the unit pack.

If the serial ID is linked with DO requests, the DO Request frame is disabled. After picking, the serial ID becomes linked with the current return pre-shipper/shipper and the original DO requests with Inventory Quantity being negative.

If the serial ID is not linked with DO requests and the pack contains single items with a single lot and reference, you are required to specify the DO request information. Make sure that the entered DO request meets the following conditions:

- The DO request has the same Ship-From and Ship-To as the current return pre-shipper/shipper.
- The item on it is the same as the item in the specified pack.
- The intersite request is not closed.
- The In-Transit site/location of the entered DO request is the same as the site/location of the specified serial ID.

In the Quantity to Pick field, enter a negative quantity. The system prompts you to enter DO requests until all the quantity is assigned. Make sure that multiple requests are linked with a single DO. If you click Back before you fully pick the unit pack, the system prompts you to remove the pack from the return pre-shipper/shipper. If you answer Yes, the system clears picking information for the serial ID. This unit pack is active in the In-Transit site and neither linked with any pre-shipper/shipper nor linked with any DO request.

If the serial ID is not linked with DO requests and the pack contains single items with different lots or references, you are required to specify a single DO request. Then the whole unit pack becomes linked with the current return pre-shipper/shipper and the specified DO request with Inventory Quantity being negative.

If the serial ID is not linked with DO requests, and the pack contains multiple items, you cannot return the unit pack directly. You can only return items in the pack.

Returning Serialized Items

You can return items that existed in any of the following forms when they were originally shipped out:

- Loose serialized items on the shipper

  To return such items, in the Serial ID field, enter the item serial ID. If the serial ID is now not linked with a DO request, specify a DO request. The item is linked with the specified DO request on the current pre-shipper or shipper.

- Items that are aggregated on a master unit pack

  In this situation, you can return discrete serialized items. If the master unit pack contains items of multiple combinations of item, lot, and reference, you can return all items of the same combination of item, lot, and reference at the same time. Both serialized items and non-serialized items are supported.

  To return a serialized item, in the Serial ID field, enter the item serial ID. When prompted to remove from its parent, specify Yes.

  The DO Request frame is disabled in either of the following situations:

  - The unit pack contains items of a single combination of item, lot, and reference, and is linked with a single DO request.
  - The unit pack contains items of multiple combinations of item, lot, and reference, and items with the same lot and reference as the entered item are linked with a single DO request.

  The system then links the item serial ID with the current return pre-shipper or shipper and the original DO request with Inventory Quantity being -1.

  However, you are required to specify a DO request frame in any of the following situations:

  - The master unit pack is not linked with any DO request.
  - The master unit pack contains items of a single combination of item, lot, and reference, and is linked with multiple DO requests.
  - The master unit pack contains items of multiple combinations of item, lot, and reference, and items with the same item number, lot, and reference as the entered item in the pack are linked with multiple DO requests.

  After you specify the DO request, the system links the item serial ID with the current return pre-shipper or shipper and the specified DO request with Inventory Quantity being -1.

  If the master unit pack contains items of multiple combinations of item, lot, and reference, you can return all items of the same combination of item, lot, and reference at the same time. Both serialized items and non-serialized items are supported. In the Serial ID field, enter the serial ID of the unit pack. Then enter the item, lot, and reference to indicate the inventory that you want to return. When prompted to remove the inventory from the unit pack, specify Yes.

  - If the specified inventory is linked with a single DO request, the DO Request frame is disabled.
  - If the specified inventory is linked with multiple DO requests, or not linked with any DO request, you are required to enter DO request and quantity to pick information. The system prompts you to enter DO requests until all the quantity of the specified inventory is assigned. Make sure that multiple requests are linked with a single DO.

- Items that are aggregated on an assembly pack but not in a unit pack

You can return discrete serialized items. You can also return all items of the same combination of item, lot, and reference at the lower level of the assembly pack at the same time. In this case, both serialized items and non-serialized items are supported.

To return a discrete serialized item, in the Serial ID field, enter the item serial ID. When prompted to remove from its parent, specify Yes.

The DO Request frame is disabled when lower-level items with the same item number, lot, and reference as the entered item in the assembly pack are linked with a single DO request.

You are required to specify a DO request frame in either of the following situations:

- The assembly pack is not linked with any DO request.
- The lower-level items with the same item number, lot, and reference as the entered item in the assembly pack are linked with multiple DO requests.

After you specify the DO request, the system links the item serial ID with the current return pre-shipper or shipper and the specified DO request with Inventory Quantity being -1.

You can return all the lower-level items of the same combination of item, lot, and reference at the same time. In this case, both serialized items and non-serialized items are supported. First, in the Serial ID field, enter the serial ID of the assembly pack. Then enter the item, lot, and reference to indicate the inventory that you want to return. When prompted to remove the inventory from the assembly pack, specify Yes.

- If the specified inventory is linked with a single DO request, the DO Request frame is disabled.
- If the specified inventory is linked with multiple DO requests, or not linked with any DO request, you are required to enter DO request and quantity to pick information. The system prompts you to enter DO requests until all the quantity of the specified inventory is assigned. Make sure that multiple requests are linked with a single DO.

Returning Non-Serialized Loose Items

In most cases when you want to return non-serialized loose inventory, you use standard DO functionality. You use the function here to return non-serialized loose inventory from the In-Transit site to the supply site when circumstances meet all of the following conditions:

- The supply site and demand site are in different domains.
- The item is serialized in the supply domain, but not serialized in the demand domain.
- The inventory is returned from the demand site to the In-Transit site without packages.

After the return, the system generates item serial IDs for the returned loose inventory in the supply site.

1. Leave the Serial ID field blank and enter the inventory location detail of the loose items that you want to return.
2. In the DO Request frame, specify a DO request. Make sure that the entered DO request meets the following conditions:
   - The DO request has the same Ship-From and Ship-To as the current return pre-shipper/shipper.
   - The item on it is the same as the specified item.
   - The intersite request is not closed.

- The In-Transit site/location of the entered DO request is the same as the specified site/location.

Then specify a negative quantity in the Quantity to Pick field. Make sure that there is enough loose inventory of the item in the In-Transit site. Click Next and the loose items are attached to the return pre-shipper/shipper and linked with the specified DO request.

You can enter zero in the Quantity to Pick field to unpick the inventory for the specified DO.

Confirming DO Return Pre-Shipper/Shipper

Use DO Pre-Shipper/Shipper Confirm to confirm the DO return pre-shipper/shipper.

After the DO return pre-shipper/shipper is confirmed, the serial IDs are returned to the supply site and active in the supply site. For the item that is serialized in the supply site, when you return non-serialized loose inventory for it, the system creates item serial IDs. The created serial IDs are also active in the supply site.

Production

License plate inventory management and item serialization play a role when you process work orders for production. Serialization production-related functions let you book serial ID ranges, based on SO information. They also let you receive work orders (capturing serialization data during the receipt), create packs, transfer goods using Serialization, and more.

The major process steps including Serialization functions to fulfill production work orders include:

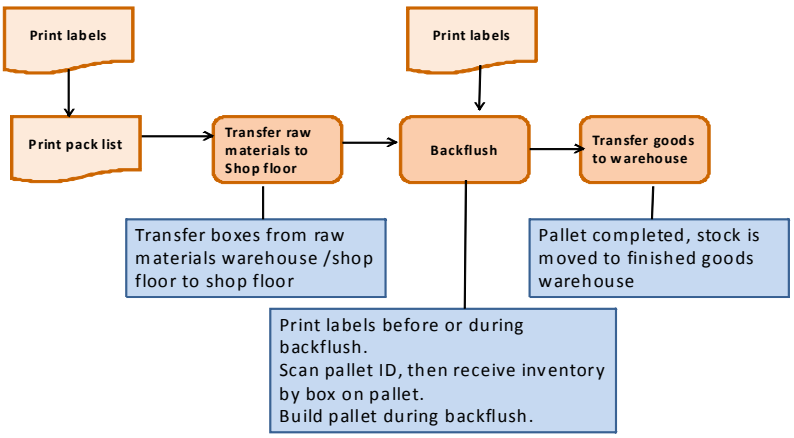
- Book serial number range or create serial IDs after you create the WO in Work Order Maintenance (16.1) or before or after WO release.
- Create serial IDs and print labels after you create the WO in Work Order Maintenance or before or after WO release.
- Transfer components to the shop floor.
- Backflush serialized goods, receiving finished goods and issuing WO components by pack.
- Reverse WO receipts by pack, identifying the WO and packs to return.
- Issue by packs or receive components back to stock that were previously issued.
- Receive WO semi-finished goods (quantity received or scrapped).
- Transfer finished goods to warehouse or return leftover materials to raw material warehouse.

The major process steps to fulfill production orders in advanced repetitive processing include:

- Create serial IDs and print labels by production line.
- Transfer components to the shop floor.
- Scrap/reject goods.
- Backflush transactions.
- Transfer finished goods to warehouse or return leftover materials to raw material warehouse.

Note For WO release and print functionality, the system performs packing based on lot-controlled inventory, not by serial number.

Fig. 4.9
Production Process



For transfers, typically the following occur:

- Cases of raw material are moved to the shop floor.
- Production BOM contains packaging material that is issued when it is used, using pack create and build functions.
- Backflush receipts are done by the case.
- Optionally, a case is built on a pallet.
- Once production is completed, leftover raw material transfers back to raw materials warehouse.

The production process flow requires stock movements from and to the shop floor locations. These transactions are inventory transactions. Shop floor transactions, however, are not a part of Serialization—only inventory issues and receipts related to production.

Programs to Use

The programs to use in production processing are described in the following topics. In the steps, QAD ERP programs that are in use during production processing are noted; otherwise, the program is a Serialization program.

For a work order, you use these programs when processing:

1. Book serial IDs for a discrete WO, using Work Order Serial Booking.
2. Issue WO components, using QAD ERP programs, such as Work Order Component Issue.
3. Move components to shop floor, using Pack Transfer.
4. Print labels by WO, using Pack Create by WO.
5. Pack receipt by WO, using Pack Receipt by WO.
6. Move finished goods to warehouse, using Pack Transfer.
7. Return components to warehouse, using Pack Build and Pack Transfer.

For a production line, you use these programs when processing:

1. Release production, print the picklist, using QAD ERP programs.
2. Move components to the shop floor, using Rep Picklist Transfer by Pack.
3. Print labels by production line, using Pack Create by Production Line.
4. Receive packs by production line and backflush components by pack, using Pack Receipt by Production Line.
5. Optionally, receive negative quantity to remove inventory packs you previously received, using Rep Receipt Correction by Pack.
6. Receive components back to stock that were previously issued, using Backflush Transaction.
7. Move finished goods to the warehouse, using Pack Transfer.
8. Return leftover components to the warehouse, using Pack Build and Pack Transfer.

Example Production Flows

The following provides typical flows within production, using packaging transactions.

Flow 1:

1. Create a repetitive schedule.
2. Create packs, using Pack Create by Production Line.
3. Transfer components to the work center location by pack and do the pack decommission, using Rep Picklist Transfer by Pack.
4. Perform a repetitive backflush, using Pack Receipt by Production Line.
5. Use Pack Build for leftovers of decommissioned components.

Flow 2:

1. Create an SO.
2. Book serial IDs for the SO, using SO/RMA Serial Booking.
3. Produce finished goods, using Backflush Transaction.
4. Build finished goods into packs for the booked serial IDs, using Pack Build.
5. Create a pre-shipper in QAD EE Pre-Shipper/Shipper Workbench.
6. Perform SO picking, using Pre-Shipper/Shipper Picking to move goods to staging area.
7. Perform SO packing, using Pre-Shipper/Shipper Pack Build.
8. Confirm/unconfirm the pre-shipper/shipper, using QAD EE programs.

Flow 3:

1. Create an SO.
2. Book serial IDs for the SO, using SO/RMA Serial Booking.
3. Create a WO to fulfill the SO created in step 1.
4. Link the WO to the order and convert booked serial IDs for the SO to WO, using Work Order Serial Booking.
5. Release the WO.
6. Perform WO receipt to receive goods for booked serial IDs, using Pack Receipt by WO.
7. Create a pre-shipper/shipper in Pre-Shipper/Shipper Workbench.
8. Perform order picking, using Pre-Shipper/Shipper Picking to pick goods received in step 6 and move goods to staging area.
9. Perform order packing, using Pre-Shipper/Shipper Pack Build.
10. Confirm the pre-shipper/shipper.

Deleting Work Order with Associated Serial IDs

You can use either of the following functions to delete a work order:

- Work Order Maintenance
- Work Order Delete/Archive

When you delete a work order,

- If the serial IDs linked with the work order are not associated with a sales order, the system deletes these serial IDs.
- If the booked or new serial IDs linked with the work order are associated with a sales order, the system does the following:
  - Changes *New* serial IDs to *Booked* when there are *New* serial IDs associated
  - Clears the pack code, item, lot, reference, UM, and location for the serial IDs
  - Removes the link between the serial IDs and the work order

In both situations, the system also creates serial history records with Type, Begin Quantity, Quantity Change and Stage set to PCK-DEL, Zero, Zero, and Blank respectively. If the serial IDs are imported serial IDs, they remain in the import list of serial IDs and the system sets the Used field to No for them.

Work Order Serial Booking

Use Work Order Serial Booking (16.15.1) to reserve serial IDs for a discrete work order.

Navigation

The first frame lets you enter a work order. The system then displays item, BOM, production line, and quantity data.

The system also calculates the fields in the Booking Data frame, including the number of serial IDs required for this WO. The number is calculated based on the quantity ordered and the serial hierarchy definition, including components that are determined by BOM explosion logic. The system also displays the number of serial IDs associated with this WO.

When you see a Sales Order frame displayed, you can optionally enter a sales order line. In this way, you associate the current work order with the specified sales order. Serial IDs that are already booked for the specified sales order line can be assigned to and associated with the current work order. All serial bookings for the current work order will come from bookings for the specified sales order line. In the number field, enter the number of serial IDs that you want to assign to the current work order. Make sure that the entered number is no greater than the booked serial IDs that are open for the linked sales order line. When the open quantity of booked serial IDs is not enough, you can use SO/RMA Serial Booking to reserve more serial IDs for the sales order line.

You can click Next to skip the Sales Order frame. Enter or accept the serial range ID and number to reserve serial IDs. The system validates the values. When you enter new numbers, it creates serial IDs with stage set to *Booked* and association set to the specified work order. When there are multiple serial ranges for the BOP, instead of entering the serial range ID one by one, you can reserve all the required serial IDs at the same time. Click Back when there are no serial IDs booked for the work order, and the system prompts you to book serial IDs for all serial ranges. Click Yes to book serial IDs for all levels.

Determining Default Serial ID

The system determines the default serial ID and number range by:

- Determining the BOP code from item packaging records based on Item (BOM)/Site/Address (Blank)/Transaction Type (RCT-WO).

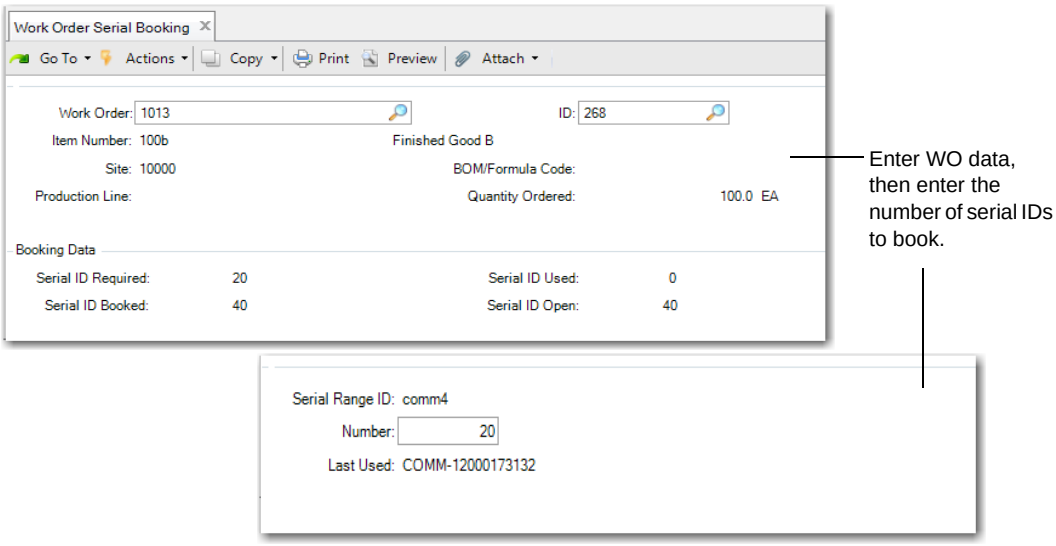
  If an alternate BOM is used, the system still follows the matching logic described in Item Packaging Maintenance, but BOM code gets higher priority than the item.

- Combining the BOP code and BOM code to determine the serial hierarchy definition. Components are determined by WO BOM explosion logic.

  If all levels in the serial hierarchy definition use the same serial range ID, then the Serial Range ID field is display only and the default value of the Number field is serial ID required - serial ID booked. Other fields are editable. When calculating serial ID required, the system skips phantom items and serial IDs are calculated for its components.

- Displaying the serial range ID used at the lowest serialized level when the serial range ID is different; the default number is 0.

Fig. 4.10
Work Order Serial Booking (16.15.1)



Work Order. Enter the work order number for which the system books serial IDs. The work order cannot be any of the following:

- Cumulative order
- Flow order
- Final assembly order
- Order with a closed or planned status
- Work order with lot control of the item set to S

ID. Enter the work order ID for which the system books serial IDs.

Sales Order/Line. Enter the sales order and line for this function to consider.

Number. Enter the number of serial ID bookings to create. The system determines the serial ID required by the quantity ordered and the serial hierarchy definition, including components that the system determines by BOM explosion logic. The margin needs to be considered.

Serial Range ID. Enter the sequence ID the system uses in the booking. You cannot enter a blank. When there is only one serial ID range used in the serial hierarchy definition, then this field is display only. When there are several serial ID ranges used in the serial hierarchy definition, then this field defaults from the serial ID range at the lowest serialized level, and you can only enter the serial range ID used in the serial hierarchy definition.

Pack Create by WO

Use Pack Create by WO (16.15.2) to create packs and print labels based on work orders.

The system upgrades serial IDs booked for the work order to assign pack code and standard pack quantity. When the work order is linked with a sales order line, you cannot create packs for it in this function; you can only upgrade booked serial IDs.

Note You can use Pack Create by WO to create packs and print labels for PO subcontract lines. You do this by creating packs for the corresponding discrete WO.

Navigation

Use the frames to select the work order, enter receipt data, and enter pack information.

In the WO frame, enter WO information. The Item, Item Description, Site, BOM/Formula Code, Production Line, Open Quantity, and UM fields are display only and come from the work order.

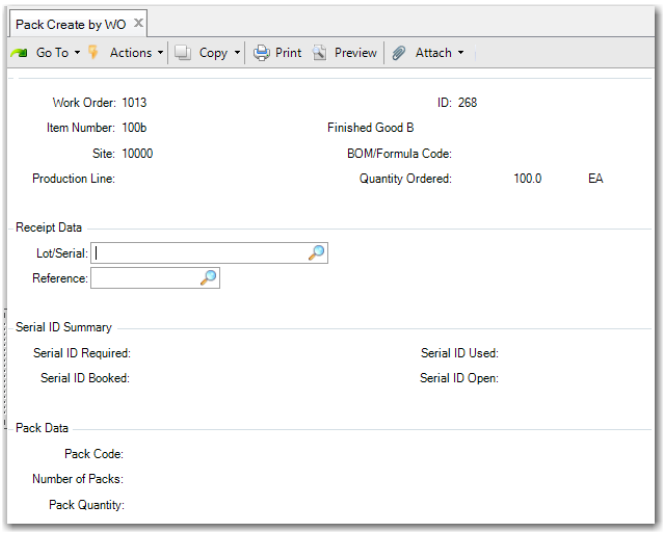
In the Receipt Data frame, you enter lot/serial and reference information that you plan to use in WO receipt. You can still enter different lot/serial and reference data during the WO receipt.

The system displays serial creation information for the WO in the Serial ID Summary frame. The system displays the number of serial IDs required for this WO. It is determined by quantity ordered and serial hierarchy definition, including components that are determined by BOM explosion logic. The system also displays the number of serial IDs associated with this WO.

In the Pack Data frame, you enter pack data.

- When no booked serial IDs are associated with the current WO, the system creates *New* packs according to the pack information in this frame.
- When there are serial IDs already booked for this WO, the system assigns pack information to booked serial IDs first, and updates the *Booked* serial IDs to *New* serial IDs. If booked serial IDs are fewer than the specified packs and the WO is *not* linked with an SO, the system also creates *New* packs using the pack data.

Fig. 4.11
Pack Create by WO (16.15.2)



Work Order. Enter the work order number for which serial IDs have been booked or are to be created.

ID. Enter the work order ID for which serial IDs have been booked or are to be created.

Lot/Serial. Enter the lot/serial number to use in the WO receipt. This field uses the same logic as the QAD EE WO receipt functions to obtain default values.

Reference. Enter the reference used in the WO receipt.

Pack Code. Enter the pack code for which the system assigns to booked serial ID or creates for serial IDs. The default is from the lowest-level serialized pack of the BOP structure that is determined by item (BOM), site, address (blank), and transaction type (RCT-WO).

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

In most cases, the pack code is the unit pack. However, if serial control of the unit pack is set to Never in Pack Code Maintenance, the system looks for the upper level whose serial control is other than Never.

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

Number of Packs. Enter the number of packs you want the system to create. You cannot enter a negative number. When the work order is linked with a sales order line, you cannot enter a number that is greater than the number of booked serial IDs.

When booked serial IDs are associated with the WO, the system tries to update booked serial IDs first.

- When the booked serial IDs are not associated with any SO line, and their quantity is less than the specified number of packs, the system creates *New* serial IDs. The number of created serial IDs equals:

  (Number of Packs - Number of Booked Serial IDs)

- When the number of booked serial IDs is greater than the number of packs, the system updates the first N (number of packs) booked serial IDs with the stage set to *New* and adds pack code, pack quantity, UM, lot/serial, and reference. The system displays a message indicating that serial IDs are updated.

The default is based on the open quantity and quantity per of the lowest-level serialized pack in the BOP structure. When serial control of the unit pack is set to Never, the system multiplies the quantity per of each level whose Serial Control is set to Never.

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

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

Pack Quantity UM. Enter the UM of the content the pack holds. The default is from the item UM. When you specify an assembly pack code, the value you enter here must be a pack UM.

Pack Create by Production Line

Use Pack Create by Production Line (18.22.7.1) to create packs and print labels based on item, site, or production line before production processing.

Navigation

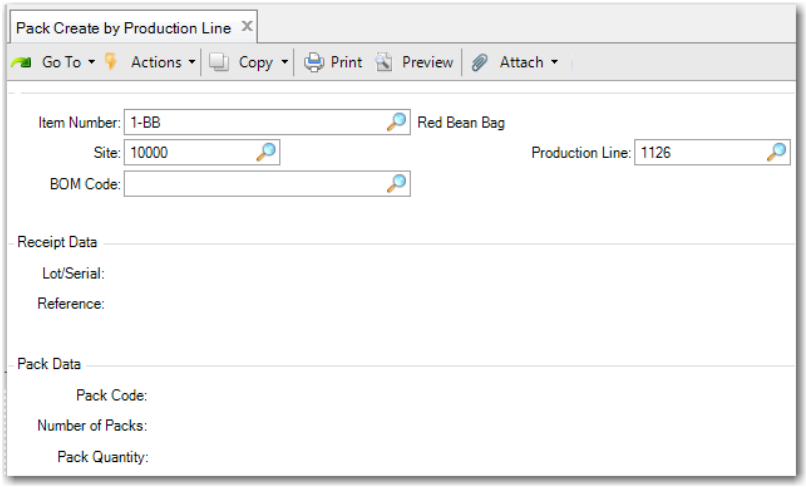
Use the frames to enter production line data, lot/serial, and reference information that is planned to be received on the production line, and pack information.

In the header frame, enter the site, item, BOM code, and production line.

In the Receipt Data frame, you enter lot/serial and reference information that you plan to use on the production line. You can still enter different lot/serial and reference data during the receipt.

In the Pack Data frame, you enter pack data, including the pack code, number of packs, and pack quantity, and the UM for the pack quantity.

Fig. 4.12
Pack Create by Production Line (18.22.7.1)



Note Some fields are described in “Pack Create by WO” on page 75.

Item Number. Enter the item number for which the system creates serial IDs.

Site. Enter the site on which the item is produced.

BOM Code. Enter the product structure for the production.

Production Line. Enter the production line to run.

Pack Code. Enter the pack code for which the system assigns serial IDs. The default is from the lowest-level serialized pack of the BOP structure that is determined by item (BOM), site, address (blank), and transaction type (RCT-WO).

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

In most cases, the pack code is the unit pack. However, if serial control of the unit pack is set to Never in Packaging Structure Maintenance, the system looks for the upper level whose serial control is other than Never.

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

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

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

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

Pack Quantity UM. Enter the UM of the content the pack holds. The default is from the item UM. When you specify an assembly pack code, the value you enter here must be a pack UM.

Lot/Serial. Enter the lot/serial number to use on the production line.

Reference. Enter the reference to use on the production line.

Pack Receipt by WO

Use Pack Receipt by WO (16.15.3) to:

- Receive goods by pack or receive loose serialized items using Serialization logic.
- Build the pack by scanning serial IDs.
- Create packs by batch.

You enter Yes in the Gen Pack Serial field to create new packs. When you specify Yes, you must specify a standard pack quantity and receive for a single WO at a time, so that you handle only one WO line transaction at a time.

Create New Unit Packs

You can create new unit packs, and then load inventory to the new unit pack.

Select No when the system prompts you to build the pallet. Then enter a blank serial ID in the Unit Pack frame. Finally, enter inventory data. You can enter additional data and the BOP code. The system generates the serial ID for the unit pack only. When you specify Yes, you are required to specify the standard pack quantity and receive quantity of each WO line.

Create New Unit Packs and Assembly Packs

You can also create new unit packs and new assembly packs, and then build the unit packs on the assembly pack. You can then load the inventory into the unit pack and load the unit packs into the assembly pack.

To perform this task, you select to build a pallet when prompted and enter the parent serial ID in the Master Pack frame and the child serial ID in the Unit Pack frame. You then load inventory and select the packaging structure to use, if necessary. The system receives the inventory and builds the Serialization information.

Note When the item to be received is set to mandatory serial controlled in the item master, the system prohibits receipt using the QAD EE Unplanned Receipts program.

Build Lower-Level Packs on an Existing Parent Pack

Finally, you can use this program to build lower-level packs on an existing parent pack. To do this task, you select the existing assembly pack, then create a new lower-level pack or use the serial ID that the system already created via pack create functions. You then load inventory into the unit pack and build the lower-level pack on it parent.

Generating Serial IDs According to Pack Code

When you set Gen Pack Serial to Yes, the system generates a number of serial IDs, according to:

- The pack code
- Standard pack quantity
- Number of full packs you enter

Navigation

Enter the work order, ID, effective date, site, and location, then specify Yes in Gen Pack Serial to create new packs.

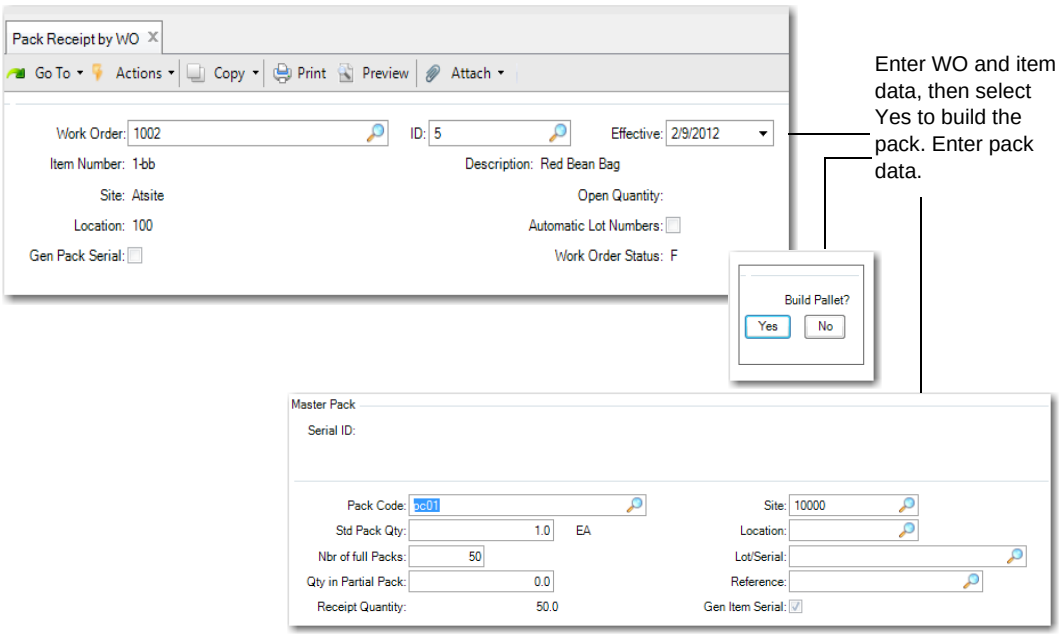
When pending packs exist for the location you enter, the system prompts you to receive all pending packs for the WO. When you respond with No, the system lets you create new pending packs.

Note The Build Pallet program controls whether one-level or two-level unit boxes are created. The Gen Pack Serial field in Serialization Pack Receipt by WO controls the way to create pending packs. When you respond with Yes to Gen Pack Serial, the system generates pack serial and item serial IDs automatically by entered receipt data. When you respond with No, you scan or generate pack serial IDs manually.

When you respond with Yes to receive all pending packs, the system receives all pending packs of the WO into inventory and ends the transaction.

After details display and you confirm that details are correct, the system displays the Additional Data frame. Once completed, you can receive the packs.

Fig. 4.13
Pack Receipt by WO (16.15.3)



Work Order. Enter the WO number for the serial IDs that you want to receive.

ID. Enter the work order ID for which serial IDs have been booked or are to be created.

Effective. Enter the effective date for the work order. The default is the system date.

Site. Enter the site for the work order.

Location. Enter the location for the work order.

Open Quantity. The system displays the quantity open for this work order. You cannot edit this field.

Gen Pack Serial. Specify Yes to have the system generate pack serial numbers.

When serial IDs are already booked for this WO, the system assigns pack information to booked serial IDs first. If booked serial IDs are fewer than the specified number of packs and do not link with an SO, the system creates new packs when you specify Yes in this field. Otherwise, the system displays an error.

Serial ID. Enter the serial ID of the parent pack.

Unit Pack Serial ID. Enter the unit pack serial ID.

Lot/Serial. Enter the lot/serial number to use in the WO receipt.

Printed. This field indicates whether the label of the scanned serial ID printed. When the label scanned printed correctly, the inventory data item, site, lot/serial, and reference print, and you cannot change this field. When you decommission a serial ID, the system resets this field to No.

Pack Code. Enter the pack code for which the system assigns to booked serial ID or creates for serial IDs. The default is from the lowest-level serialized pack of the BOP structure that is determined by item (BOM), site, address (blank), and transaction type (RCT-WO).

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

In most cases, the pack code is the unit pack. However, if serial control of the unit pack is set to Never in Packaging Structure Maintenance, the system looks for the upper level whose serial control is other than Never.

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

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

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

Number of Full Packs. Enter the number of packs you want the system to create. You cannot enter a negative number. When the work order is linked with a sales order line, you cannot enter a number that is greater than the number of booked serial IDs.

When booked serial IDs are associated with the WO, the system tries to update booked serial IDs first.

- When the booked serial IDs are not associated with any SO line, and their quantity is less than the specified number of packs, the system creates *New* serial IDs. The number of created serial IDs equals:

  (Number of Packs - Number of Booked Serial IDs)
- When the number of booked serial IDs is greater than the number of packs, the system updates the first N (number of packs) booked serial IDs with the stage set to *New* and adds pack code, pack quantity, UM, lot/serial, and reference. The system displays a message indicating that serial IDs are updated.

The default is based on the open quantity and quantity per of the lowest-level serialized pack in the BOP structure. When serial control of the unit pack is set to Never, the system multiplies the quantity per of each level whose serial control is set to Never.

Quantity in Partial Pack. Enter the quantity in an incomplete pack. This quantity is the quantity to be put into a partially filled pack. In general, the quantity is less than the standard pack quantity; however, it can be greater than the standard pack quantity. When greater, the system displays a warning.

BOP Code. Enter the BOP code for the pack.

Pack Receipt by Production Line

Use Pack Receipt by Production Line (18.22.7.2) to:

- Receive goods by pack or receive loose serialized items using Serialization logic.
- Build the pack by scanning serial IDs.
- Create packs by batch.

- Optionally, backflush components to the operation.

Create New Unit Packs

You can create new unit packs, and then load inventory to the new unit pack.

To perform this task, you first select No when the system prompts you to build the pallet. You then enter a blank serial ID in the Unit Pack frame, and finally enter inventory data.

The system generates the serial ID for the unit pack only.

Create New Unit Packs and Assembly Packs

You can also create new unit packs and new assembly packs, then build the unit packs on the assembly pack. You can then load the inventory into the unit pack and load the unit packs into the assembly pack.

To perform this task, you select to build a pallet when prompted and enter the parent serial ID in the Master Pack frame and the child serial ID in the Unit Pack frame. You then load inventory and select the packaging structure to use, if necessary. The system receives the inventory and builds the Serialization information.

Note When you receive serialized items using this function, the system prohibits receipt using the QAD EE backflush program.

Build Lower-Level Packs on an Existing Parent Pack

Finally, you can use this program to build lower-level packs on an existing parent pack. To do this task, you select the existing assembly pack, then create a new lower-level pack or use the serial ID that the system already created via pack create functions. You then load inventory into the unit pack and build the lower-level pack on its parent.

Backflush Components

You can use this program to backflush components automatically or manually by setting Modify Backflush to Yes.

When set to No, the system issues the components not packed in the default location. When the non-packed item inventory is insufficient, the system automatically prompts you to modify the backflush list. When you do not want to scan packs manually, you can use Pack Decommission functions when the components are moved to the shop floor, or decommission packs when you transfer the picklist.

When Modify Backflush is Yes, you can view or modify the backflush list by scanning serial IDs. Both item and pack serial IDs are accepted.

Navigation

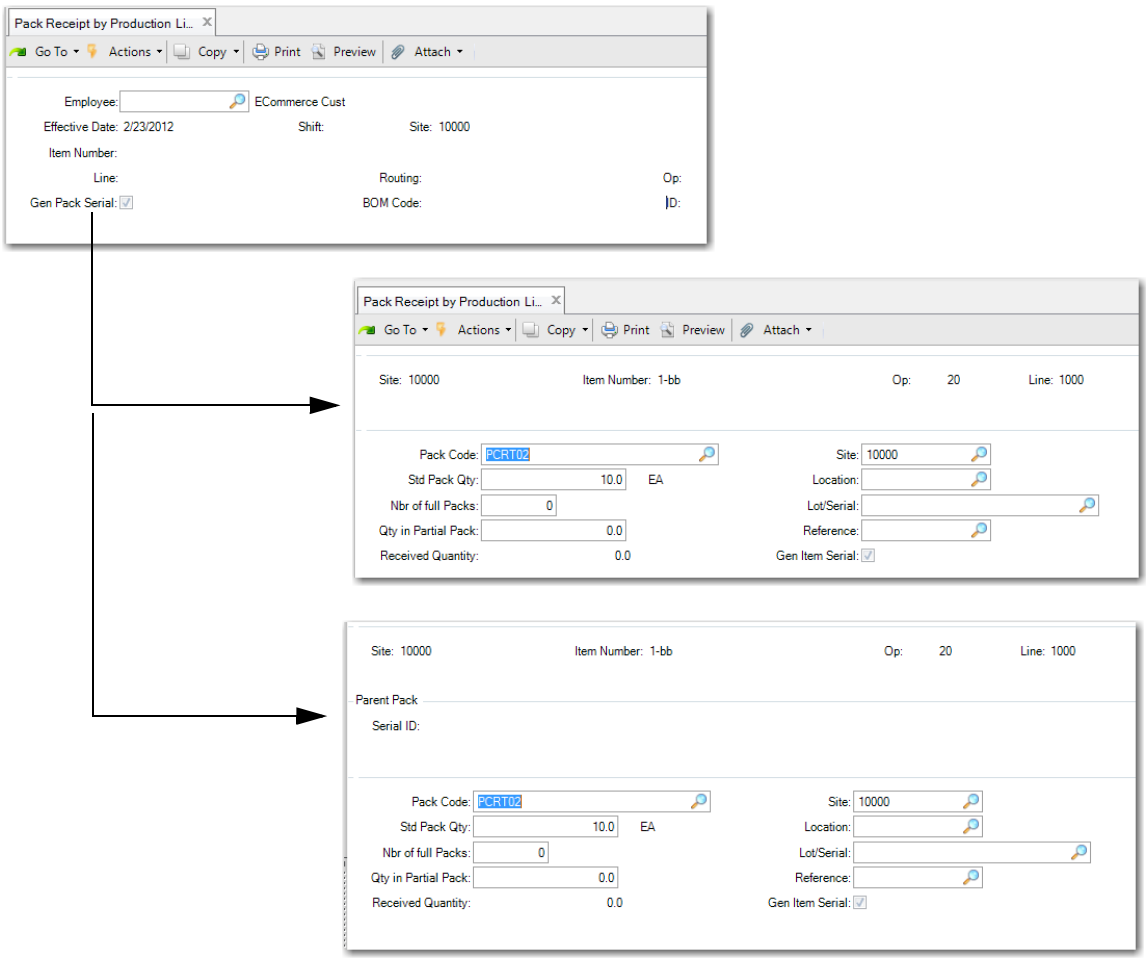
Enter the employee, shift, production line, effective date, BOM code, item, and other fields in the header.

When you set Gen Pack Serial to Yes, the system generates pack serial and item serial IDs automatically by entered receipt data. When you respond with No, you scan or generate pack serial IDs manually.

When pending packs exist for the production line you enter, the system prompts you to receive all pending packs. When you respond with No, the system lets you create new pending packs.

When you respond to Yes to receive all pending packs, the system displays another frame to let you enter work center, machine, department, quantity scrapped and rejected, and other information. After this frame, the system displays the total units to be received and lets you change attributes. When you press Go, the system receives all pending packs of the production line into inventory.

Fig. 4.14
Pack Receipt by Production Line (18.22.7.2)



Employee. Enter the employee code assigned to this production line.

Effective Date. Enter the production line effective date.

Shift. Enter the employee's shift.

Site. Enter the site for the production line receipt.

Routing. Enter the routing associated with the production line receipt.

BOM Code. Enter the BOM code associated with the production line receipt.

Item Number. Enter the item number associated with the production line receipt.

Line. Enter the production line for this transaction to consider.

Gen Pack Serial. Specify Yes to have the system generate pack serial numbers.

Pack Code. Enter the pack code for which the system assigns serial IDs. The default is from the lowest-level serialized pack of the BOP structure that is determined by item (BOM), site, address (blank), and transaction type (RCT-WO).

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

In most cases, the pack code is the unit pack. However, if serial control of the unit pack is set to Never in Packaging Structure Maintenance, the system looks for the upper level whose serial control is other than Never.

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

Note Other fields are similar to those fields in “Pack Receipt by WO” on page 79.

Rep Receipt Correction by Pack

Use Rep Receipt Correction by Pack (18.22.7.3) to receive a negative quantity so that the system can remove inventory packs you previously received. So, you use this program to reverse what you received with Pack Receipt by Production Line.

The system removes previously received packs from inventory and reduces the quantity in the output queue at the last operation. The system does not return components associated with the last operation to the work center location. Therefore, you are required to reverse the backflush using a backflush transaction. The correction only occurs at the last operation.

When you use this program, note the following regarding backflush transactions:

- You can receive both serialized and non-serialized WIP items and backflush their components by using QAD EE backflush programs when the operation is not the last one.
- When you correct non-serialized finished goods by pack or serialized inventory using Repetitive Receipt Correction by Pack and reverse a backflush using a QAD EE Backflush Transaction, make sure that the system does not double the return of finished goods in Backflush Transaction. To make sure of this, set Qty Processed to 0 (zero), then manually backflush the components.
- When the system reverses the backflush automatically, it receives the components back automatically when all components are not serial controlled. Otherwise, you are required to manually scan the item serial ID to reactivate it.

- The system only reverses backflush components without issuing the finished goods from inventory when you reverse the backflush at the last operation for finished goods that are set for mandatory Serialization control in Item Master Maintenance or when non-serialized loose inventory is not sufficient. For this situation, issue the inventory of finished goods using Rep Receipt Correction by Pack.

When you use this program, there is an impact on the Pending PO Shipper Unload and PO Return by Pack programs. When you reverse a receipt in PO Shipper Unload or return packs in PO Return by Pack and enter a subcontract PO, the system reverses the backflush components of the subcontract operation and uses the processing logic of EE backflush programs when you set Modify Backflush to No.

Navigation

This program consists of several frames.

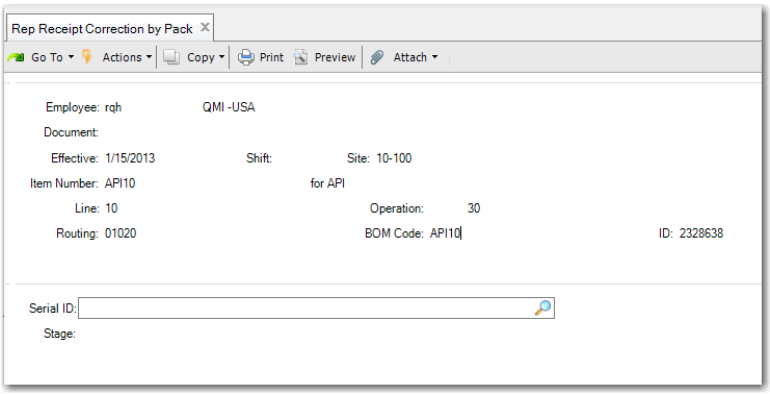
In the Repetitive Order Selection frame, you select the repetitive order to produce; other fields to validate are the same as those fields in Pack Receipt by Production Line. Operation and ID are display only.

1. Enter the serial ID of the finished goods to be returned. Make sure that the entered serial ID meets the following conditions:
   - Was previously received through Pack Receipt by Production Line.
   - Is set to active or aggregated on an active master pack. When you enter a serial ID that is aggregated on an active master pack, the system removes the pack automatically. You can remove packs manually. The items in the pack must match the item you entered in the Repetitive Order Selection frame.
   - Can be an assembly pack with single items. When you enter an assembly pack, the system returns the entire pack.
   - Can be in a unit pack. When you enter the unit pack that holds serialized items, the system returns all items in the pack. When you enter the unit pack that holds non-serialized items, you must enter the return quantity in Inventory Data frame.

   The entered serial ID can be an item serial ID.

   When you leave the Serial ID blank, the system displays the Inventory Data frame for you to enter the quantity, site, location, lot/serial, and reference.
2. Optionally, enter inventory information in the Inventory Data frame.

Fig. 4.15
Rep Receipt Correction by Pack (18.22.7.3)



Serial ID. Enter one of the following:

- Serial ID of finished goods to be returned.
- Blank to display the Inventory Data frame.
- Serial ID twice to remove the serial ID from the return list.

Note All fields within the Inventory Data Frame that displays after you enter the serial ID are described in “Inventory Data Frame” on page 137.

WO Receipt Backflush by Pack

Use WO Receipt Backflush by Pack (16.5.5) to receive finished goods and issue WO components by pack. You can receive completed products and backflush to issue the items used by the pack. You use this program instead of the QAD EE function Work Order Receipt Backflush when:

- You have serialized finished product to receive and backflush and you set Receive to Yes.
- You have non-serialized finished product with serialized components or components in a pack to receive and backflush and you set Backflush to Yes.

Create New Unit Packs

You can create new unit packs, and then load inventory to the new unit pack.

Select No when the system prompts you to build the pallet. Then enter a blank serial ID in the Unit Pack frame. Finally, enter inventory data. You can enter additional data and the BOP code. The system generates the serial ID for the unit pack only.

For the following functions, refer to the sections listed with the function:

- Create New Unit Packs and Assembly Packs – similar to that for Pack Receipt by WO; see “Pack Receipt by WO” on page 79.
- Build Lower-Level Packs on an Existing Parent Pack – similar to that for Pack Receipt by WO; see “Pack Receipt by WO” on page 79.
- Generate Serial IDs According to Pack Code – similar to that for Pack Receipt Unplanned; see “Unplanned Receipts” on page 50.

Navigation

Enter the work order ID and effective date; then, specify a receipt or backflush by setting either field to Yes; then, specify Yes in Gen Pack Serial to create new packs.

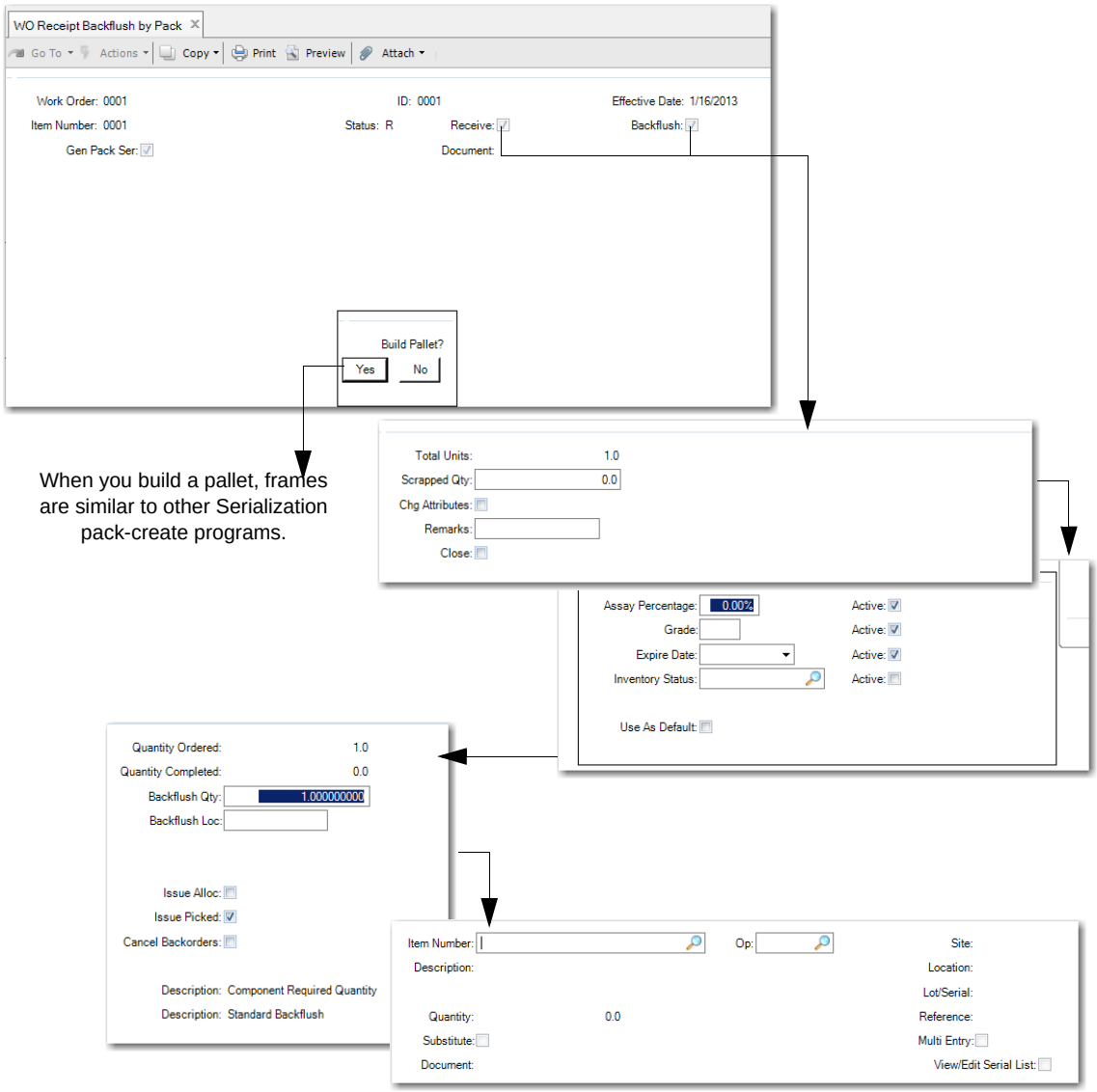
Enter the serial IDs to receive as finish products.

Optionally, enter scrap quantities, attributes, or remarks. Enter the quantity ordered, completed, backflushed and any additional backflush-related information, such as the calculation method and backflush method; then, enter the serial ID to issue as components.

After details display and you confirm that details are correct, the system displays the Additional Data frame. Once completed, you can receive/backflush the packs.

Note In the WO Receipt Backflush by Pack graphic, additional frames that are displayed are not shown.

Fig. 4.16
WO Receipt Backflush by Pack (16.15.5)



Work Order and ID. Enter the work order number and ID for the serial IDs that you want to receive.

Effective. Enter the effective date for the transaction. The default is the system date.

Receive. Indicates whether finished products are to be received into inventory in this transaction.

Yes: The system prompts you to enter serial IDs to receive.

No: You can backflush component items without receiving any finished products into inventory.

Backflush. Indicate whether component items are to be backflushed from inventory in this transaction. When Yes, the system prompts you to enter the component and then scan serial IDs to backflush.

Gen Pack Serial. Specify Yes to have the system generate pack serial numbers. When Yes, you can create new serial IDs by batch with an entered pack code. When No, you are required to scan or enter serial IDs manually.

Serial ID. Enter the serial ID of the parent pack.

Total Units. The system displays the quantity received into stock.

Scrapped Qty. Enter the number of items scrapped on this work order. Scrapped quantity displays on the work order history and cost reports.

Close. Indicate whether to set the work order to closed. Once a work order is closed, additional component issues and work order receipts cannot be recorded. Labor can continue to be reported. You cannot delete the work order until the system processes the Accounting Close function.

Backflush Qty. Enter the quantity to use when backflushing components from inventory. The default is the total units plus the scrapped quantity that you enter on the first screen.

Backflush Loc. Optionally, enter a location for the backflush. When the field is blank, the system backflushes items from the default location specified on the work order picklist. When you specify a location, the system creates detail allocation records with the new location and backflush quantity.

Issue Alloc. Indicate whether to issue allocated inventory. Issue allocated and picked determine which inventory to issue for each component item. When you scan a serial ID for the component, then system ignores the Issue Alloc and Issue Picked for this component.

Issue Picked. Indicate whether to issue picked inventory. Issue allocated and picked determine which inventory to issue for each component. To issue picked components, set this field to Yes, then review the issued data to confirm that each quantity has the correct data.

Cancel Backorders. The setting you enter here is the default for each component item to issue, and you can change it manually on each item.

Yes: Set to Yes only on the final work order receipt backflush. Yes cancels the component requirement. The quantity remaining is not issued later. The system sets the quantity required to zero and notifies MRP of decreased requirements.

No: Indicate that any remaining quantity required for a component should remain open.

Quantity Calculation Method. Sets the calculation method used to determine the quantity to issue for all components. The default is Component Required Quantity. Other valid choices are Work Order Bill Qty Per and Phantoms First. You can still adjust each issue quantity on a line-by-line basis in the detail screen.

Backflush Method. Defines whether to use the backflush quantity you entered (the default standard backflush) or to include prior issues and receipts against this order.

WO Receipt Correction by Pack

Use WO Receipt Correction by Pack (16.15.6) to reverse WO receipts by pack. You identify the work order and the packs to return. You can return full packs or part of a pack or return non-serialized loose items. Multiple users can use this program.

When you use WO Receipt Correction by Pack to return a serialized pack or item:

- If the serial ID was not only received but also booked for the current work order, the system keeps the link between the serial ID and the work order.
- If the serial ID was received for the current work order but not booked for it, the system removes the link between the serial ID and the work order.
- If the serial ID was not received for the current work order (with negative quantity), the system removes the link between the serial ID and the work order for which it was received.

  Note When later you use Pack Receipt by WO to receive the serial ID for the original work order again, the system displays an error message.

Reverse receipts may not exceed total previous receipts.

For all packs, when you return all content, the system changes the stage to Decommed (decommissioned).

You can enter loose serialized IDs; refer to “Loose Serialized Items in Production” on page 193.

Navigation

Enter WO information in the header frame.

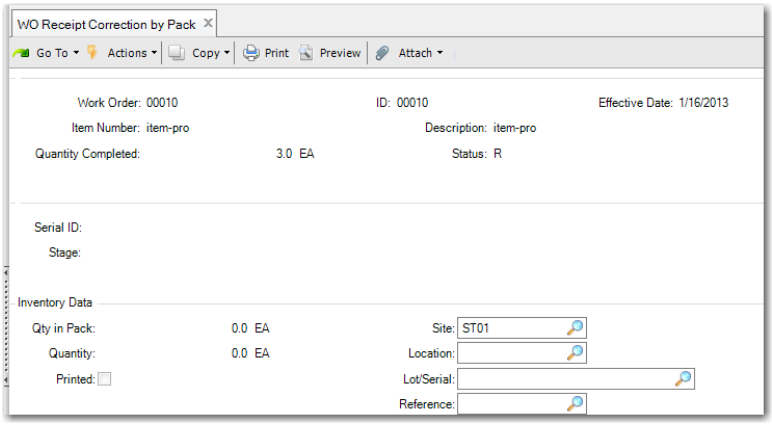
Specify the serial ID. When the serial ID is aggregated, the system prompts you to remove it from its parent. When Yes, the system removes the pack. When the serial ID is a unit pack that holds non-serialized items, the system displays the Inventory Data frame. When you enter a serial ID that is already in the return list, the system prompts you to remove it from the list. When you click Cancel on the Serial ID, the system displays the last frame of this program for you to enter remarks.

Specify the quantity. The system returns items based on the quantity.

Specify any non-serialized loose items, then enter additional information, such as reference data.

Confirm the WO receipt correction.

Fig. 4.17
WO Receipt Correction by Pack (16.15.6)



Work Order and ID. Enter the work order number and ID for reversed receipts.

Effective. The GL effective date associated with this transaction. Defaults to system date.

Description. The system displays a description of the item.

Serial ID. You can enter a serial ID for the following:

Assembly Pack: The system returns the whole pack. When aggregated on an active master pack, the system removes the pack automatically. Make sure that the item in the pack matches with the WO item. When the pack serial ID is linked with an SO, make sure that the WO is linked with the same SO.

Unit Pack: The system returns all serialized items in the pack. You are required to receive all serialized items in the unit pack on the same work order when quantity ordered on the work order is not negative. When the quantity is negative and the item serial IDs link with a sales order, the negative work order must link with the same sales order. When you enter a unit pack holding non-serialized items, the system displays the Inventory Data frame.

Non-serialized item: When a non-serialized item is contained in the unit pack, enter the return quantity in the Inventory Data frame.

If the pack serial ID is linked with a sales order, make sure that the work order is linked with the same sales order.

Item Serial ID: The specified item is returned. When the item is aggregated on an active master pack, the system removes the item automatically. Make sure that the serialized item is received on the same work order when the quantity ordered on the work order is not negative. When the quantity is negative and the item serial ID links with a sales order, make sure that the negative work order links with the same sales order.

Blank: When this field is blank, the system returns non-serialized loose items. The system displays the Inventory Data frame for you to enter quantity, site, location, lot/serial, and reference.

Entering a serial ID twice means to remove the serial ID from the return list.

Quantity. Enter the quantity of the item to return. The default is the quantity in the pack.

Note Other inventory-related fields are described in “Inventory Data Frame” on page 137.

WO Component Issue by Pack

Use WO Component Issue by Pack (16.15.13) to issue WO components by pack. You can identify the work order and the packs to issue, issue full packs or part of a pack, and issue non-serialized loose items with this function. This program supports multiple users.

When you use the QAD EE Work Order Component Issue, the system displays an error message when the items are serialized or contained in a pack. Use WO Component Issue by Pack to issue the items.

You can enter loose serialized IDs, and loose non-serialized items are supported; refer to “Loose Serialized Items in Production” on page 193.

Navigation

This program contains several frames.

Enter WO information in the header frame.

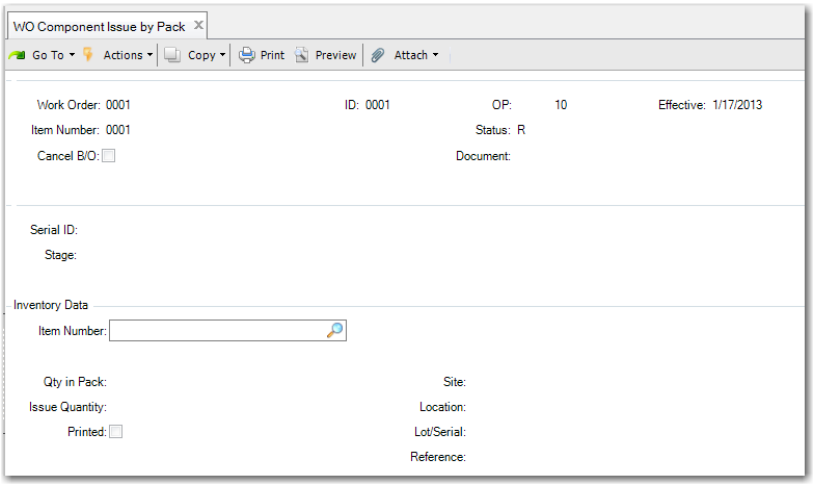
Specify the serial ID in the second frame. The pack or item serial you enter must be active or aggregated on an active master pack. You can remove any level packs. When you click Cancel on the Serial ID field, the system prompts you to view the issue list. When you enter a serial ID that is already in the issue list, the system prompts you to remove it from the list.

Specify the issue quantity in the third frame.

If you did not enter a serial ID, specify non-serialized loose items, then confirm the issue and view the issue list. Once you confirm that all information is correct, the system issues the components as follows:

- For all packs, when the system issues all content, it changes the stage to decommissioned.
- For all serialized items, it changes the stage to Consumed, but maintains the item, lot/serial, reference, and WO record data.
- The system removes the detail allocation based on WO, item, lot, serial ID, or reference. When it cannot find matching allocation detail, the system removes the detail allocation based on the WO/item.
- The system updates the WO bill.

Fig. 4.18
WO Component Issue by Pack (16.15.13)



Work Order and ID. Enter the work order number and ID for the components to issue.

Op. Enter one of the following as the operation where the components are in use:

A valid operation: When you enter an operation and issue a component that is not defined on the work order bill, the system checks Regulatory Attributes Control to verify whether this operation is supported. If Yes, the system treats the transaction similar to an unplanned issue; that is, the system issues the components to the work order, but does not decrease component requirements.

Blank: When you leave the operation blank and a component is in use in one or multiple operations, the system automatically picks the operation in ascending order. When all component requirements are met, the system maintains the remaining quantity on blank operations as long as the operation is in the WO bill. When not in the WO bill and Modify Component Issue is set to No in Regulatory Attributes Control, the system maintains the remaining quantity on the first operation. When the operation is blank, not in the WO bill and Modify Component Issue is set to Yes, the system creates the component with a blank operation in the WO bill and maintains the quantity on the blank operation.

Effective. Enter the GL effective date associated with this transaction. The default is the system date.

Cancel B/O. Specify how the system handles any remaining open quantity:

No: Any remaining quantity required remains open on backorder. This quantity is processed at some future time.

Yes: The quantity open is canceled and not issued later. The quantity required is set to zero and MRP is notified of the decreased requirement.

Since the quantity required for a component includes an allowance for scrap, you may issue less than was originally required. In that case, the remaining items should be canceled.

The default is No, which can impact all components issued in this transaction.

Document. The legal document ID associated with the transaction.

Serial ID. Assembly Pack: The system issues the whole pack. When aggregated on an active master pack, the system removes the pack automatically. When multiple items are included in the pack, the system issues all items.

Unit Pack: When the unit pack contains only non-serialized items of a single combination of item number, lot, and reference, you can enter issue quantities manually in the Inventory Data frame. You can do a partial issue or issue the whole unit pack. In other scenarios, the system issues the whole unit pack.

Item Serial ID: The system issues the specified item. When the item is aggregated on an active master pack, the system removes the item automatically.

Substitute Item: When a substitute item is issued, the system decreases the requirement for the preferred component. If one item is a predefined substitute for multiple components, the system automatically picks components based on the operation you enter. When the operation is blank, the system picks components based on ascending operation. When all component requirements of the operations are decreased to 0, the system maintains the remaining quantity on blank operations when the blank operation is in the work order. When not in the work order and you set Modify Component Issue to No in Regulatory Attributes Control, the system maintains the remaining quantity on the first operation. When the blank operation is not in the WO, but Modify Component Issue is Yes in Regulatory Attributes Control, the system creates the component with a blank operation in the WO, and maintains the remaining quantity on the blank operation.

Blank: When this field is blank, the system issues non-serialized loose items. System displays the Inventory Data frame to enter item number, issue quantity, site, location, lot/serial, and reference.

Entering a serial ID twice means to remove the serial ID from the issue list.

Issue quantity. Enter the quantity of the item to issue. The default is the quantity in the pack.

Note Other inventory-related fields are described in “Inventory Data Frame” on page 137.

WO Component Return by Pack

Use WO Component Return by Pack (16.15.14) to receive components back to stock that were previously issued. In general, the components are received back in decommissioned pack IDs. This function supports multiple users.

You can enter both loose serialized items and loose non-serialized items; see “Loose Serialized Items in Production” on page 193.

Navigation

This program contains several frames.

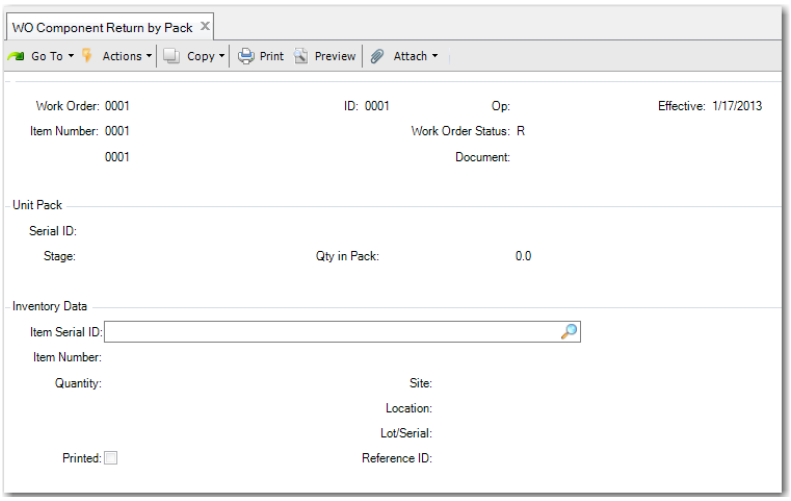
Enter WO information in the header frame.

Specify the pack serial ID in the second frame. You cannot enter an item serial ID in this frame, and the stage must be new or decommissioned. When new, the serial ID must be for a unit pack. When blank, you can enter item serial IDs for loose serialized items and enter item number or quantity for loose non-serialized items. Entering a serial ID twice removes it from the return list. After you enter the serial ID, the system displays the Inventory Data frame.

Specify serialized items and the quantity, which is always one for a return when you scan the item serial ID. When the item serial ID is blank and you enter an item that is not a serialized item, the quantity can be more than one.

Confirm that all information is correct, then press Yes to return the components and review the return list. For all packs and item serial IDs, the system changes the stage to Active, updates the WO bill, and prompts you to print labels.

Fig. 4.19
WO Component Return by Pack (16.15.14)



Work Order and ID. Enter the work order number and ID for the issued components to return.

Op. Enter one of the following as the operation where the components are in use:

A valid operation: When you enter an operation with a component that is not on the work order, the system checks Regulatory Attributes Control to determine whether the component can be processed. When Yes, the system treats the transaction as a negative unplanned issue; that is, the system issues the component to the work order, but does not modify the component requirement.

Blank. When blank and one component was issued in one or multiple operations, the system automatically picks the blank operation first, then other operations in descending order to decrease the quantity issued.

Effective. Enter the GL effective date associated with this transaction. The default is the system date.

Document. The legal document ID associated with the transaction.

Serial ID. Enter the serial ID for the issued product that you want to return.

The stage of the pack serial ID must be new or decommissioned (decommed). When the stage is new, it must be a unit pack. When the stage is decommed, the system assumes that it is a unit pack. You cannot enter an item serial ID in this field.

Blank is allowed and indicates that you enter loose items.

Entering a serial ID twice means to remove the serial ID from the return list.

After you enter the serial ID, the system displays the Inventory Data frame.

Item Serial ID. Enter the item to be returned. Make sure that the item is consumed and has been issued to the same work order. The system builds it to the unit pack when unit pack Serial ID is not blank. The system displays Item Number, Quantity, Lot/Serial, and Reference for the Item Serial ID. Blank is allowed.

Note When the Item Serial ID is returned to a work order with negative quantity ordered, the item serial ID could be issued to another work order.

Item Number. Enter the item to return. This field is editable only when you leave Item Serial ID blank. The system builds the items to the unit pack when you enter a unit pack serial ID in the Serial ID field. The item must match when the pack serial ID stage is new.

Quantity. Enter the quantity of items to return. For the item serial ID, it is always 1.

Note Other inventory-related fields are described in “Inventory Data Frame” on page 137.

Rep Picklist Transfer by Pack

Use Rep Picklist Transfer by Pack (18.22.7.5) to transfer by serial ID and transfer inventory from the stocking location to the work center location. Optionally, you can use this program to decommission after you transfer.

For repetitive picklist transfers using QAD Repetitive Picklist Transfer, the system displays an error message, informing you to use Rep Picklist by Pack to transfer components when:

- All items of the selected picklist are mandatorily serial controlled through a setting in Item Master Maintenance.
- When you enter a serialized component, the system prompts you to use Repetitive Picklist Transfer by Pack.
- When components on the picklist are not serialized, and you check the inventory of loose items in the site, location, lot, and reference, then enter a quantity that is less than the quantity to transfer but the total QOH is enough for the transfer.

The system displays a warning in Repetitive Picklist Transfer by Pack, informing you that the pack/item serial ID to transfer contains items not included in the picklist.

Navigation

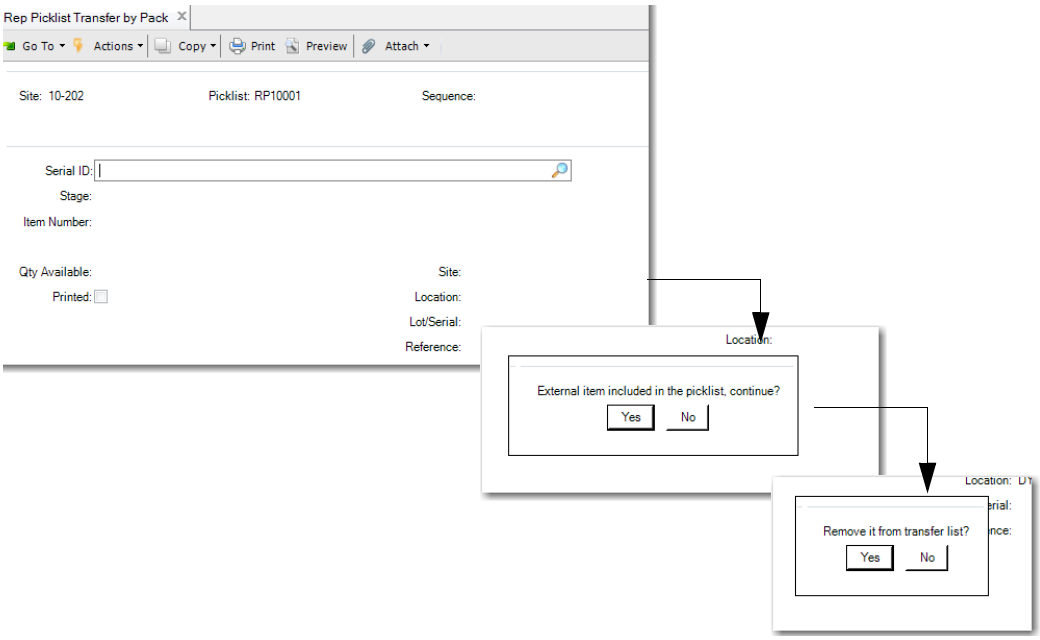
This program consists of several frames.

1. Enter the picklist, site, and sequence to transfer in the Picklist Selection frame; then press Return.
2. Enter the serial ID to transfer in the Serial ID frame.

   The system prompts you to include external items in the picklist when the pack holds items that are not in the picklist. When all items in the scanned serial ID are in the selected picklist, no messages display. The system then prompts you to remove the serial ID only when you scan a previously scanned serial ID. This is the equivalent of undoing the scan. The system does not transfer the serial ID when you confirm. Once you transfer, the system provides an option to decommission the pack (not the item); see Figure 4.20.

   The Stage, Item, Qty in Pack, Site, Location. Lot Number and Reference indicate the inventory data of the serial ID entered and are read-only.

Fig. 4.20
Rep Picklist Transfer by Pack (18.22.7.5)



Site. Enter the site for the repetitive schedules and work centers (locations) and the picklist to use when transferring goods.

Picklist. Specify the ID of the picklist for the inventory to transfer.

Sequence. Specify the sequence number for the transfer.

Use to Location Status. When the From Location and To Location have different statuses, specify Yes to use the To Location status.

Serial ID. Enter the serial ID of goods to transfer. Browse for serial IDs previously entered by using the Up and Down keys.

Inventory

The following topics discuss unplanned issues and pack-transfer programs related to license plate inventory management and item serialization functions. For inventory transactions, finished goods are transferred by pallet to the finished goods warehouse, using:

- Pack Transfer
- Pack Transfer with L/S Change
- Pack Transfer - Multi-Pack

Packaging transactions occur, too, that let you intervene with serialized packaging during the storage of inventory. The following packaging transactions are discussed after unplanned issues and pack transfer programs:

- Pack Build
- Pack Decommissioning

For information on Pack Receipt Unplanned (3.17.13), see “Unplanned Receipts” on page 50.

For cycle counting, data printed and displayed can include pack information; see “Cycle Counting” on page 125.

You can optionally scrap inventory; see “Scrap Inventory” on page 143.

Unplanned Issues

To do unplanned issues with serialized inventory, use Pack Issue Unplanned (3.17.14). For unplanned issues of non-serialized goods, you can use QAD EE Issues - Unplanned (3.7).

Note When you use the following functions, make sure that you enter the proper issue and receipt quantities, as the system does Serialization validation for all inventory transactions.

- If there is serialized inventory for the inventory location detail, the system then checks whether non-serialized loose inventory is enough. If the quantity you enter exceeds the non-serialized loose inventory, the system displays an error message.
- If there is no serialized inventory for the inventory location detail, the system not only checks whether inventory is enough but also checks the Overissue flag. The system checks the Overissue flag to validate whether inventory balance is allowed to go negative.
  - Batchload Transfer with Lot/Serial (3.4.4)
  - Receipts - Sales Order Return (3.10)
  - Receipts - Return to Stock (3.11)
  - Receipts - Backward Exploded (3.12)
  - PO Shipper Receipt (5.5.5.11)
  - PO Fiscal Receiving (5.13.16)
  - Pre-Shipper/Shipper Auto Confirm (7.9.7)
  - Sales Order Shipments (7.9.15)
  - Consignment Inventory Transfer (7.18.7)
  - Aging Inventory Update (7.18.10)
  - Aging Inventory Batch Update (7.18.11)
  - Inventory Usage Create (7.18.13)
  - Authorization Usage Create (7.18.14)
  - Sequenced Usage Create (7.18.15)
  - Shipper Usage Create (7.18.19)
  - Usage Create Undo (7.18.22)

When you issue inventory that is serialized using the QAD EE Issues - Unplanned program, the system displays an error and prompts you to use this program.

Navigation

This program contains several frames and can display different frames, depending upon the serial ID you enter.

Start by entering an active master pack. If it is a unit pack, the system displays the Inventory Data frame.

- If the unit pack contains items of a single item number, lot, and reference, you can enter the Issue Quantity to do a partial issue or issue the whole pack. When the items in the pack are serialized items, after you enter the quantity to issue, the system displays issue details. If you do a partial issue, the system sets the stage of serialized items to Consumed. If you issue the whole unit pack, the system set the stage of the unit pack to Consumed.
- If the unit pack contains items of multiple combinations of item number, lot, and reference, the Inventory Data frame is display only. The system issues the whole unit pack, with the stage set to Consumed.

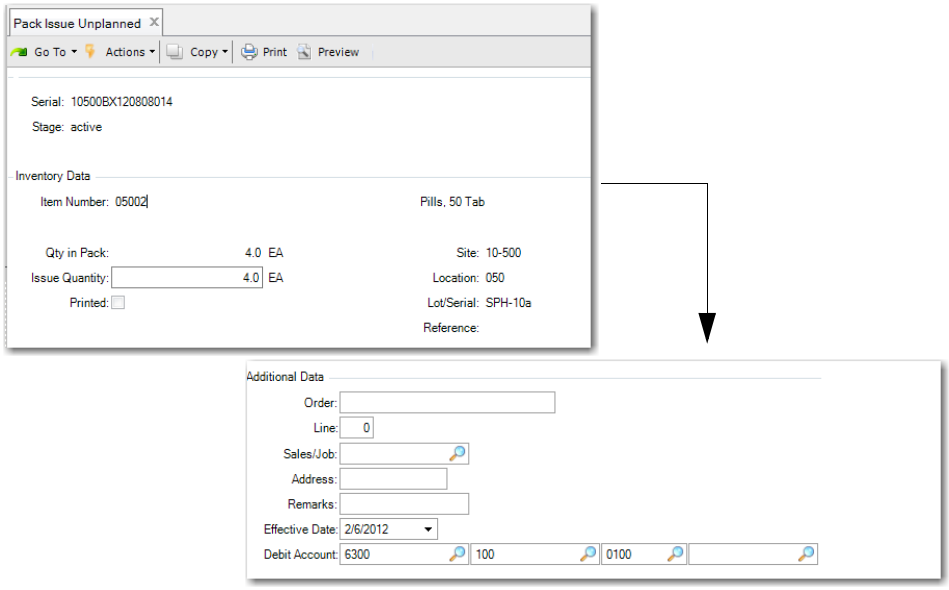
If it is an assembly pack that does not contain items at the lower level, the system displays the Lower-Level Pack frame. Enter the serial ID of a lower-level pack to do a partial issue or leave blank to issue the whole pack. When Issue Pack Serial is blank, the system issues the entire pack contents, sets the stage to Consumed, and updates the pack quantity. When Issue Pack Serial has a value, the system sets the stage of the pack to Consumed, and removes it from the parent pack. It updates the pack quantity of the parent pack. If the issue pack is the last lower-level pack, the system sets the stage of the parent pack to Consumed.

If it is an assembly pack that contains items not in a unit pack, the system directly issues the whole assembly pack. You cannot do a partial issue.

When you press Enter, you can enter the Inventory Movement Code, then go on to enter order data in the Additional Data frame, including the order, address, sales data, and effective date.

After you enter the additional data, the system prompts you to confirm the issue. When you respond with Yes, the system updates the serial master data, creates serial history, and prompts you to print labels when the Label Printing module is installed.

Fig. 4.21
Pack Issue Unplanned (3.17.14)



Relevant fields not previously described include:

Serial. Enter a valid serial ID for the issue pack. The system displays the stage, item, item description, site, and other data.

When the pack stage is aggregated, the system prompts you to remove it from parent pack.

Issue Quantity. Indicate the number of items to issue in this transaction.

Issue Pack Ser. Enter the serial ID of a lower-level pack to do a partial issue. Leave blank to issue the entire pack.

Inventory Movement Code. Enter the inventory movement code for the item.

Item Number. This field is display only.

Order/Line. Enter a valid sales, work, or purchase order number and line for the transaction. The number can also be an RMA/RTS number or any other user-defined value.

Sales/Job. Enter the order number referenced to the inventory transaction.

Address. Enter the address for this transaction.

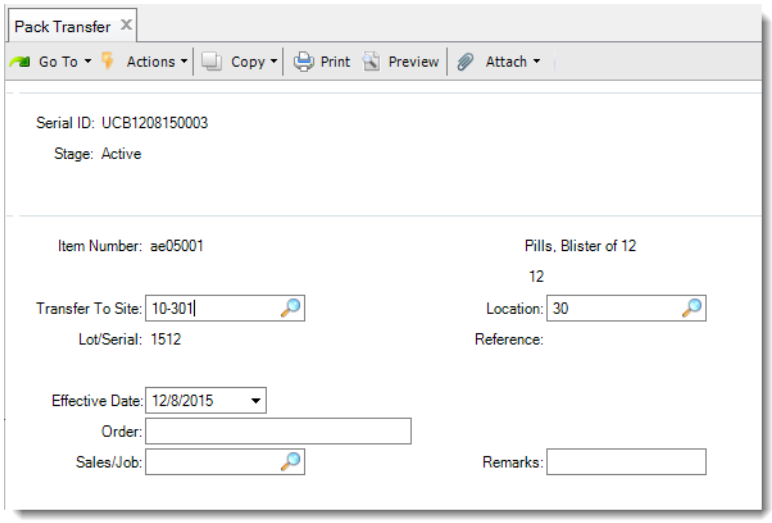
Remarks. Identify the source or the reason for the transaction.

Effective Date. Enter the general ledger (GL) effective date for this transaction. The default is the system date.

Pack Transfer

Use Pack Transfer (3.17.7) to transfer inventory by scanning serial IDs for either the unit pack or assembly pack.

Fig. 4.22
Pack Transfer (3.17.7)



Serial ID. Enter the serial ID for this pack transfer. If you enter the serial ID of an aggregated pack whose direct parent is a master pack, the system displays a warning and prompts you to remove it.

Transfer To Site. Enter the target site.

Location. Enter the target location.

Effective Date. Enter the general ledger (GL) effective date for this transaction. The default is the system date.

Order. Enter a valid sales, work, or purchase order number for the transaction. You can also enter an RMA/RTS number or any other user-defined value.

Sales/Job. Enter the sales order number in reference to the inventory transaction.

When the inventory status of the serial ID is different from the inventory status of the destination location specified in Transfer To Site/Location, the system displays the message: `Status conflict. Use to Status`.

- If you Click Yes, the system uses the inventory status code of the Transfer To location.
- If you click No, the system checks whether there is inventory in the Transfer To location.
  - If Quantity on Hand is not zero, the system prompts you to re-enter the Transfer To site/location.
  - If Quantity on Hand is zero which results from negative loose inventory plus the quantity in pack of serialized packs or items, the system prompts you to re-enter the Transfer To site/location.
  - If Quantity on Hand is zero, and there is no physical inventory in the destination, the system displays the message: `Status Conflict. Use from status`. You can select Yes to use source inventory status and do the transfer.

Pack Transfer with L/S Change

Use Pack Transfer with L/S Change (3.17.8) to transfer unit packs or assembly packs by scanning serial ID with lot change. You can only transfer single-item, single-lot packs with this program. Fields are similar to Pack Transfer, except that you also specify the lot/serial number for the transfer and the reference number.

When the inventory status of the serial ID is different from the inventory status of the destination location specified in Transfer To Site/Location, the system displays the message: `Status conflict. Use to Status`.

- If you Click Yes, the system uses the inventory status code of the Transfer To location.
- If you click No, the system checks whether there is inventory in the Transfer To location.
  - If Quantity on Hand is not zero, the system prompts you to re-enter the Transfer To site/location.
  - If Quantity on Hand is zero which results from negative loose inventory plus the quantity in pack of serialized packs or items, the system prompts you to re-enter the Transfer To site/location.
  - If Quantity on Hand is zero, and there is no physical inventory in the destination, the system displays the message: `Status Conflict. Use from status`. You can select Yes to use source inventory status and do the transfer.

Reprint Labels for Transfer

When you print labels, you can reprint them after you transfer the pack to another site/lot/ref. Scan a single serial ID or a range of serial IDs to transfer and specify the To site, lot, or reference. When labels are printed already, transferring to a different site may cause the system to reprint labels.

When the serial ID is printed and the original site/lot/ref is different from the site/lot/ref you entered, the system displays a message to reprint once you transfer. You can use this reprint feature when you transfer in the following programs, too:

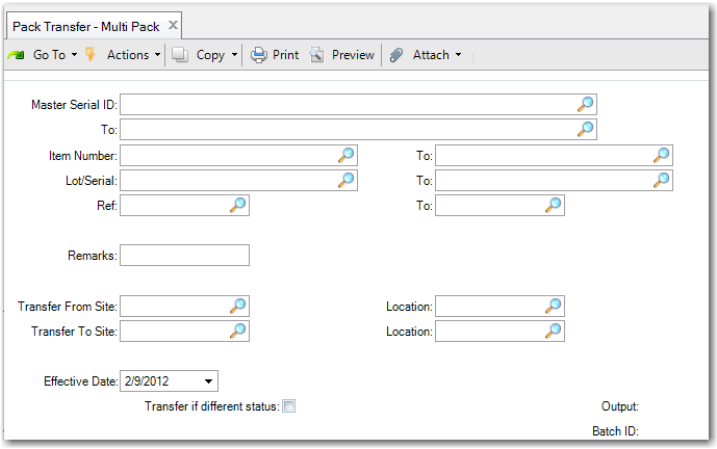
- Pack Transfer - Multi Pack
- Pre-Shipper/Shipper Picking/Pre-Shipper/Shipper Packing
- DO Receipt by Pack and Pack Build
- DO Pre-Shipper/Shipper Confirm (for DO return)
- Repetitive Picklist Transfer by Pack
- Cycle Count
- Inventory Balance Update by Pack (auto-transfer functionality)

  Note Inventory Balance Update by Pack displays a list of serial IDs to reprint when you confirm the inventory update. However, you are required to reprint them manually.

Pack Transfer - Multi Pack

Use Pack Transfer - Multi Pack (3.17.9) to select a range of inventory detail records to transfer. The system transfers the packs with master serial IDs in the selected range.

Fig. 4.23
Pack Transfer - Multi Pack (3.17.9)



Master Serial ID/To. Enter a range of serial IDs of the packs to transfer or leave blank to consider all serial IDs.

Item Number/To. Enter a range of packs to transfer or leave blank to consider all items.

Lot/Serial/To. Enter a range of lot/serials of the packs to transfer. You can transfer packs by specific lot/serial or lot/serial range.

Ref/To. Enter a range of reference numbers of the packs to transfer or leave blank to consider all.

Remarks. Identify the source or the reason for the transaction.

Transfer From Site. Enter the site from which the system transfers inventory. The system takes the quantity of the specified serial, item, lot/serial, and lot reference number and issues it from the site and location you enter in this field and receives it into the Transfer To site and location.

Location. Enter the location for the site from which the system transfers inventory.

Transfer To Site. Enter the site to which inventory is being transferred.

Location. Enter the location to which inventory is being transferred.

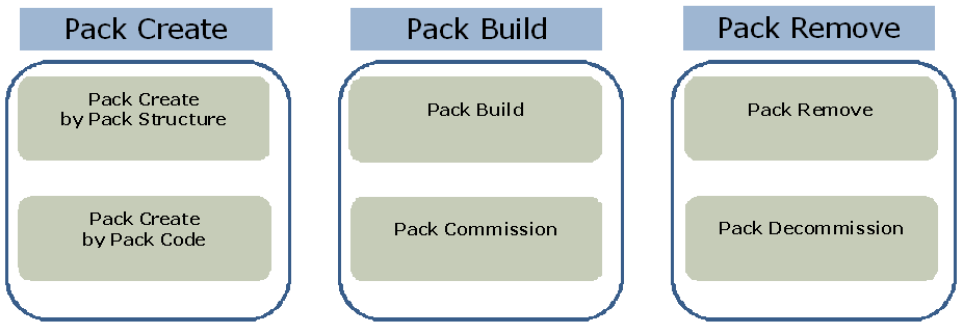
Effective Date. Enter the general ledger (GL) effective date for this transaction. The default is the system date.

Transfer if different status. Specify Yes when the system can transfer to a site and location that has a different inventory status than the current one. When Yes, the system transfers, regardless of the inventory status. When No, the system transfers only between two inventories with the same status.

Packaging Transactions

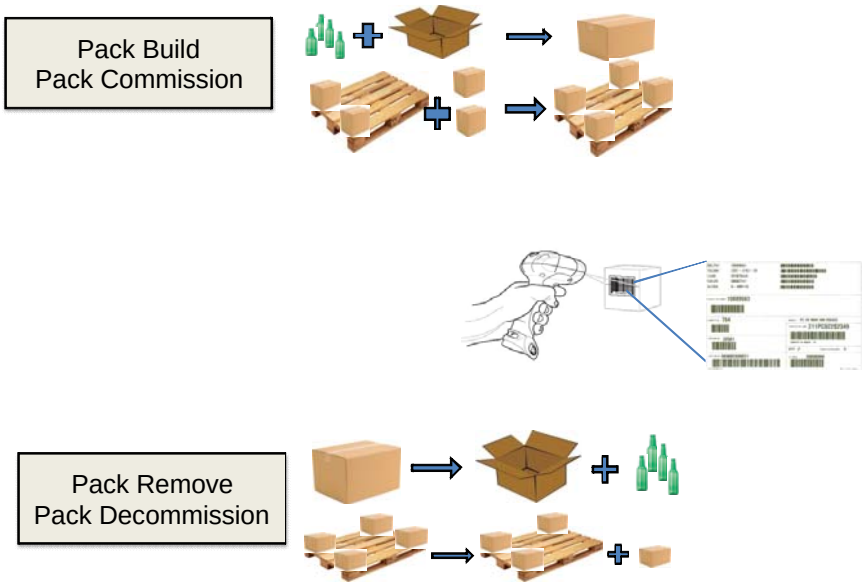
License plate inventory management and item serialization functions introduce new packaging transactions to QAD EE. The transactions let you intervene with serialized packaging data during inventory storage when you use any of the pack transaction programs. The following figure depicts the three major areas of the packing transaction programs.

Fig. 4.24
Packaging Transactions



The following graphic depicts the concepts behind packaging during pack build and commission, and pack remove and decommission.

Fig. 4.25
Pack Transaction Concepts



Pack Create by Pack Structure

Use Pack Create by Pack Structure (3.17.1) to create packs and print labels:

- Before inventory is received (inbound, work order)
- Outbound during packaging
- In the warehouse for serialized packaging units

Pack Create by Pack Structure lets you generate packs or labels, or both, for all packaging levels at once as defined in the packaging structure. It also lets you change the pack content defined in the pack structure.

You can also define the labels to be printed for items, lot/serial, or reference quantities. The system automatically selects serial ID numbers, stages the created serial master records as New, and optionally prints labels.

Navigation

There are several frames presented in Pack Create by Pack Structure.

In the Inventory Frame, define for which inventory record the system creates serial ID records or prints BOP code labels. Specify the item, lot/serial, reference, and quantity. The system generates serial IDs based on the information you enter.

Note As you typically use Pack Create programs to create serial IDs before inventory transactions, the item, lot, or serial IDs may not exist in stock.

In the Origin/Destination frame, specify the origin of the pack structure by specifying the site and address.

Once you enter the BOP Code, the system displays the BOP Code Frame. For information on options, see “BOP Code Frame” on page 107.

After you enter data in the BOP Code frame, the system displays the Pack Configuration Frame. For information on options, see “Pack Configuration Frame” on page 108.

System Calculations for Pack Configuration

For pack configuration, the system calculates the number of full master packs and incomplete master packs, based on the packaging structure and quantity you enter. The system-calculated incomplete master packs are either 0 (zero) or 1 (one), which means that the system attempted to create a full master pack as much as possible.

Based on a calculated full master pack and an incomplete master pack, the system calculates the total quantity in full master packs and total quantity in incomplete master packs, based on the following:

Quantity in full master pack + quantity in incomplete pack = Quantity entered

Based on the entered incomplete master pack, the system displays the pack configuration frame. As full master packs completely follow the BOP structure, there is no need to configure full master packs.

For each of the incomplete master packs, the system creates a packaging structure in the Pack Configuration frame. The system attempts to create full packs first. When creating the packaging structure, if there is a level where the Serial Control field in Pack Code Maintenance is set to Never, the system does not create this level. The system multiplies Qty Per of the parent level by Qty Per of the current level.

Example You have a BOP 1 BOP code with a structure of the following two levels:

Level	Pack Code	Content	Qty Per	UM
1	Pallet	Case-O	5	CA
.2	Case-O	Item A	250	UM

When you enter a quantity of 4500, the system calculates the result as:

Full Master pack = 3

Qty in Pack =3750 EA

Incomplete Master pack=1

Qty in Pack = 750 EA

Example You have a BOP 2 BOP code with a structure of the following three levels:

Level	Pack Code	Content	Qty Per	UM
1	Pallet	Carton	2	CT
.2	Carton	Pouch	5	PO
..3	Pouch	Item A	100	EA

When you enter a quantity of 4500, the system calculates the result as:

Full Master pack = 4

Qty in Pack =4000 EA

Incomplete Master pack=1

Qty in Pack = 500 EA

You can modify full master packs and incomplete master packs. When you do, the system calculates, using the following:

*Qty in Full Master Pack = Full Master Pack * Standard Master Pack Quantity (Determined by BOP)*

Qty in Incomplete Master Pack = Quantity entered - Qty in Full Master Pack

When the following is true, the system warns you that the incomplete master packs are overloaded:

Qty in Incomplete Master Pack / Standard Master Pack Quantity > Incomplete Master Pack

Example The following shows examples of pack structure results when you do and do not make changes:

When you do not change the system-calculated full master pack and incomplete master pack, the pack structure is as follows:

Level	Pack Code	Number	Content	Qty Per	UM
1	Pallet	1	Case-O	5	CA
.2	Case-O	3	Item A	250	EA
.2	Case-O	2	Item A	0.0	EA

When you change full master pack to 2 and incomplete master pack to 2, the pack structure is as follows:

Level	Pack Code	Number	Content	Qty Per	UM
1	Pallet	1	Case-O	5	CA
.2	Case-O	5	Item A	250	EA
1	Pallet	1	Case-O	5	CA
.2	Case-O	3	Item A	250	EA
.2	Case-O	2	Item A	0.0	EA

When you do not change the system-calculated full master pack and incomplete master pack, the pack structure is as follows:

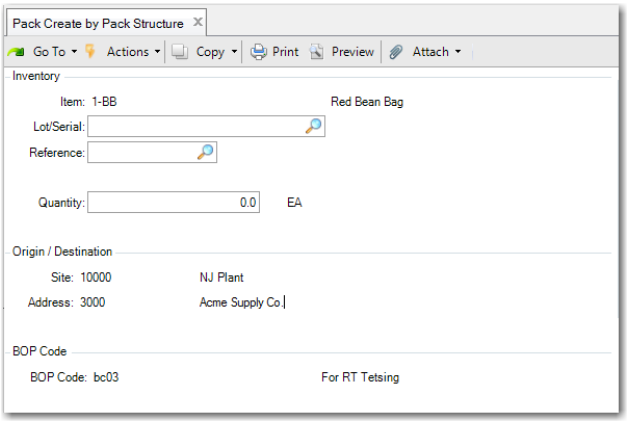
Level	Pack Code	Number	Content	Qty Per	UM
1	Pallet	1	Carton	2	CT
.2	Carton	1	Pouch	5	PO
..3	Pouch	5	Item A	100	EA
.2	Carton	1	Pouch	5	PO
..3	Pouch	5	Item A	0.0	EA

When you change the full master pack to 3 and the incomplete master pack to 2, the pack structure is as follows:

Level	Pack Code	Number	Content	Qty Per	UM
1	Pallet	1	Carton	2	CT
.2	Carton	2	Pouch	5	PO
..3	Pouch	5	Item A	100	EA
1	pallet	1	Carton	2	CT
.2	Carton	1	Pouch	5	PO
..3	Pouch	5	Item A	100	EA

Level	Pack Code	Number	Content	Qty Per	UM
.2	Carton	1	Pouch	5	PO
..3	Pouch	5	Item A	0.0	EA

Fig. 4.26
Pack Create by Pack Structure (3.17.1)



Item. Enter a valid item for which the system generates serial IDs. You cannot enter a blank.

Lot/Serial. Enter the lot/serial associated with the item.

Reference. Enter the reference associated with the item.

Quantity. Enter the quantity of the item. The quantity determines the quantity of the generated serial IDs. A negative number is not allowed.

Site. Enter a site for the item. The site you enter here does not imply that the item must stay at this site. The site here indicates the inventory transaction for which the system creates serial IDs. Blank is allowed.

Address. Enter the partner associated with the inventory transactions for which the serial IDs are created. For example, if you create a serial ID for items to be received, the address is the supplier. It must be an existing address or site. Blank is allowed.

BOP code. Enter the bill-of-packaging structure of the items. The value defaults from Item Packaging Maintenance based on the item, site, address combination. You can modify the code here.

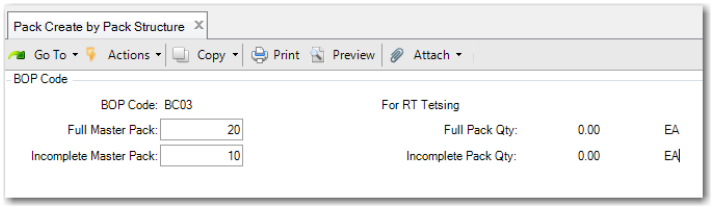
BOP Code Frame

Once you enter all header and Origin/Destination Frame data and the BOP code, the system displays the BOP Code frame. In the BOP Code frame, configure the incomplete and master packs by entering the number of full master packs and incomplete master packs. You configure incomplete master packs by entering the Number of Standard Pack Quantities and the Qty in Pack fields in the Pack Configuration frame. When you press Enter, the system:

- Generates serial IDs based on the item, site, address, and pack code.
- Optionally displays the number of created serial IDs in the Pack Configuration frame.
- Sets the stage as New.

- Prompts you to print labels when the Label Printing module is installed, and when you specify Yes, displays the printer selection frame. The system prints the labels according to the predefined label format definitions.

Fig. 4.27
BOP Code Frame



Full Master Pack. Enter the number of full master packs.

Incomplete Master Pack. Enter the number of incomplete master packs.

Pack Configuration Frame

You can modify the packaging structure in the Pack Configuration frame. You can modify the Number and Qty in Pack fields.

When you press Insert on the Level field in the Pack Configuration frame, the system:

- Creates the packaging structure below this point, starting from the next level to the lowest level. The number of the next level is 1.
- Updates the Qty in Pack of the current level.
- Skips the levels with Serial Control set to Never.
- Displays a pack overload warning when Qty in Pack of the current level is greater than Qty Per in the packaging structure.
- Prohibits you from inserting at the lowest level.

Note the following in the displayed pack configuration data:

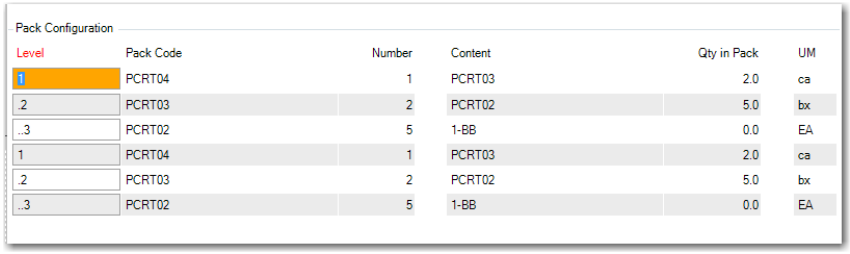
- Only incomplete master packs are included in the display. For example, if you enter 2 in the Incomplete Master Pack field, the system displays two whole packaging structures.
- You can enter the quantities for full and incomplete master packs.
- For any line of incomplete packs, if the number is 0 or Qty in Pack is 0, the system does not create serial IDs for this line.
- Depending on the data, the pack structure as the serial ID range can vary.

When you press Delete on the Level field, the system:

- Removes the packaging structure, starting from the current level to the lowest level
- Updates the Qty in Pack of the parent level
- Prohibits you from removing the master pack level

The system prompts you to verify that all information is correct. When you specify Yes, the system stores the records and creates serial history records.

Fig. 4.28
Pack Configuration Frame



Pack Create by Pack Code

Use Pack Create by Pack Code (3.17.2) to create packs and print labels:

- Before inventory is received (inbound, work order)
- Outbound during packaging
- In the warehouse for serialized packaging units

Pack Create by Pack Code lets you define labels to be printed based on pack code and the number of packs.

You can also define the labels to be printed for items, lot/serial, or reference quantities. The system automatically selects serial ID numbers, stages the created serial master records as New, and optionally prints labels.

Navigation

There are several frames presented in Pack Create by Pack Code.

In the Inventory Frame, define for which inventory record the system creates serial ID records for a particular pack code. Specify the item, lot/serial, reference, and pack code. The system generates serial ID based on the information you enter.

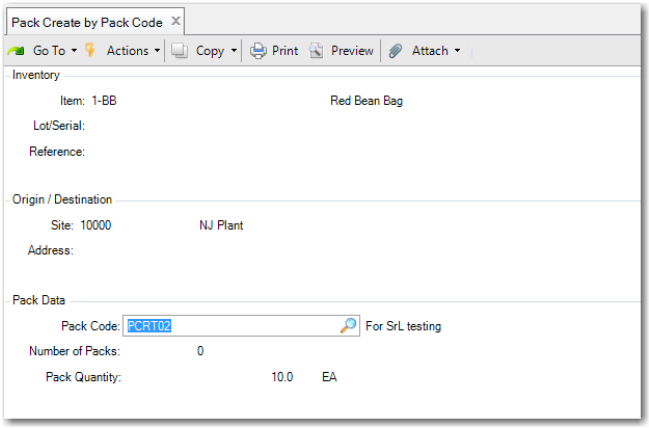
Note As you typically use Pack Create programs to create serial IDs before inventory transactions, the Item/Lot/Serial may not exist in stock.

In the Origin/Destination frame, specify the origin of the pack structure by specifying the site and address.

In the Pack Data frame, specify pack information. The system supports both unit and assembly packs. Specify the pack code, the number of packs to be created, the expected quantity to be held in the pack, and the UM of the content to be held in the pack. When you press Enter, the system:

- Generates the serial ID based on the item, site, address, and pack code.
- Sets the stage as New.
- Prompts you to print labels when the Label Printing Services module is installed, and when you specify Yes, displays the printer selection frame. The system prints the labels according to the predefined label format definitions.

Fig. 4.29
Pack Create by Pack Code (3.17.2)



Note Other fields that are the same as those fields in “Pack Create by Pack Structure” on page 104 are described under that topic.

Pack Code. Enter a valid pack code for which the system creates serial IDs. The default is from the unit pack of the BOP structure that the system determines by item, site, and address. You can enter an assembly pack code. You cannot enter a blank.

Number of Packs. Specify the number of packs to be created. Negative is not allowed.

Pack Quantity. Enter the expected quantity to be held in the pack. The default is from the quantity per of the unit pack/inventory item level of the BOP structure that the system determines by item, site, and address. A negative is not allowed.

If Serial Control of Unit Pack is set to Never in Pack Code Maintenance, the system attempts to find the higher level when Serial Control is not set to Never. The system multiplies quantity per of its parent level with quantity per of the current level.

Pack Quantity UM. Enter the UM of the content to be held in the pack. Defaults from the item UM. If users specify an assembly pack code, the value entered here must be a pack UM.

Pack Build

Use Pack Build (3.17.3) to load inventory into a pack or add lower-level packs on an existing pack.

The system assumes that inventory is always available in stock, but not serialized. If otherwise, you are required to use Pack Receipts.

The system builds only one level pack each time. If the existing pack serial ID links to a specific SO and booking serial IDs exist for the SO, the system verifies that all lower-level serial IDs to be built on it are for the same master SO. All newly created serial IDs for this master pack are picked from booking IDs for that master SO.

Navigation

In the Parent Data frame, enter the serial ID of the parent pack. It can be a unit pack or an assembly pack. When blank, the system creates a new serial ID.

In the Child Pack frame, enter the serial ID of the pack or item that you want to build into the parent pack. Or, leave the Serial ID field blank and enter information of non-serialized inventory to build into the parent pack.

When the parent pack is not an existing pack, you can enter data in the Additional Parent Pack Data frame; see “Additional Parent Pack Frame” on page 113.

When the parent pack serial ID is blank, the system displays the Origin Address frame after displaying the Child Pack frame. In this frame, you can enter the address to determine the BOP code and serial sequence ID.

Use the information in the following table to help you navigate through the Pack Build frames under different pack-build scenarios.

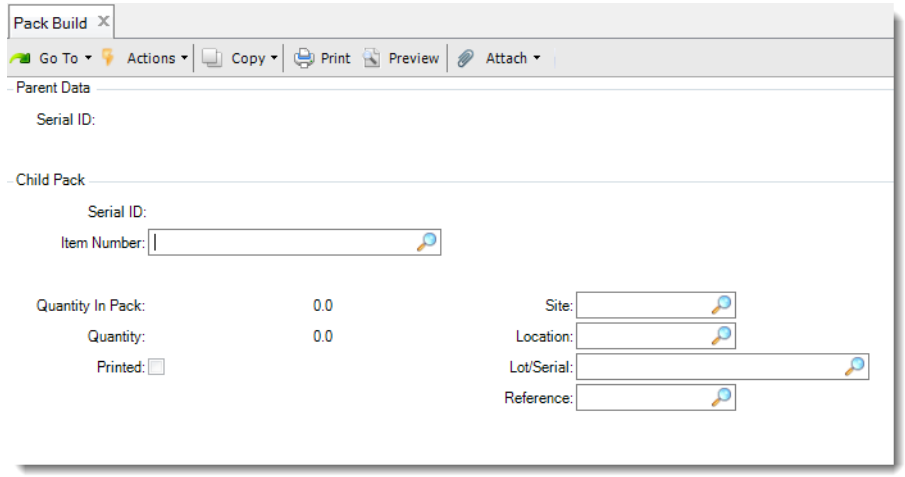
Table 4.4
Pack Build Scenarios

	Scenario	**Parent Serial ID Field**	**Child Pack Frame**	**Frame Sequence to Follow**
1	Create and build a new unit pack	Blank or non-existent unit pack serial ID	• Serialized item: Enter the item serial ID. The system displays the inventory data. • Non-serialized item: Leave Serial ID blank and enter inventory data.	Parent Data | Child Pack | Origin Address | Additional Parent Pack Data
2	Load inventory into an existing *New* unit pack	*New* unit pack serial ID	• Serialized item: Enter the item serial ID. The system displays the inventory data. • Non-serialized item: Enter inventory data only.	Parent Data | Child Pack | Additional Parent Pack Data
3	Load inventory into *Booked* or *Decommed* unit pack	*Booked* or *Decommed* unit pack serial ID	• Serialized Item: Enter the item serial ID. The system displays the inventory data. • Non-serialized item: Leave Serial ID blank. The system displays the item number. Enter inventory data. If the parent serial ID is booked, make sure that the item serial ID is booked for the same master SO line.	Parent Data | Child Pack | Additional Parent Pack Data
4	Create and build a new assembly pack	Blank or non-existent serial ID	Enter child pack serial ID. The system displays the inventory data.	Parent Data | Child Pack | Origin Address | Additional Parent Pack Data
5	Load lower-level pack into an existing assembly pack	Assembly pack serial ID	Enter child pack serial ID. The system displays the inventory data.	Parent Data | Child Pack | Additional Parent Pack Data

	Scenario	Parent Serial ID Field	Child Pack Frame	Frame Sequence to Follow
6	Load inventory into an *Active* unit pack	*Active* unit pack serial ID	• Serialized item: Enter the item serial ID. The system displays the inventory data. • Non-serialized item: Leave Serial ID blank and enter inventory data. When the unit pack code allows multiple items or lots, you can load multiple items or multiple lots of items into the same unit pack.	Parent Data | Child Pack | Additional Parent Pack Data
7	Load a lower-level pack into an *Active* unit pack	*Active* unit pack serial ID	Enter the lower-level pack serial ID. The system displays the inventory data. After pack building, the original unit pack upgrades to an assembly pack, which holds items not in a unit pack and the added lower-level pack.	Parent Data | Child Pack | Additional Parent Pack Data
8	Load inventory into an *Active* assembly pack	*Active* assembly pack serial ID	• Serialized item: Enter the item serial ID. The system displays the inventory data. • Non-serialized item: Leave Serial ID blank and enter inventory data. After pack building, the added items are directly held in the assembly pack with the original lower-level packs.	Parent Data | Child Pack | Additional Parent Pack Data

The following depicts the Pack Build program. Field descriptions follow the figure.

Fig. 4.30
Pack Build (3.17.3)



Serial ID. Enter a valid serial ID of the parent pack or leave blank. The serial ID can be of a unit pack or an assembly pack. When blank, the system generates a new serial ID.

Serial ID. Enter the child serial ID to load into the parent pack or leave it blank. The serial ID can be of a unit pack, assembly pack, or item.

Item Number. When enabled, enter the item to be loaded into its parent pack. This field is display only when you have entered a child serial ID. You cannot leave this field blank.

Site. Enter the site at which the item is stored. This field is display only when you have entered a child serial ID. You cannot leave this field blank. The default is the global site.

Location. Enter the location at which the item is stored. This field is display only when you have entered a child serial ID. If the parent pack serial ID is in the New stage, this field value defaults from the primary location at global site of the item to be loaded into the pack.

Lot/Serial. Enter the lot/serial number associated with the item to be loaded into its parent pack. This field is display only when you have entered a child serial ID.

Printed. This field indicates whether the label of the scanned serial ID printed or not. When the label scanned printed correctly, the inventory data item, site, lot/serial, and reference print, and you cannot change this field. When you decommission a serial ID, the system resets this field to No.

Ref. Enter the reference number associated with the item to be loaded into its parent pack. This field is display only when you have entered a child serial ID.

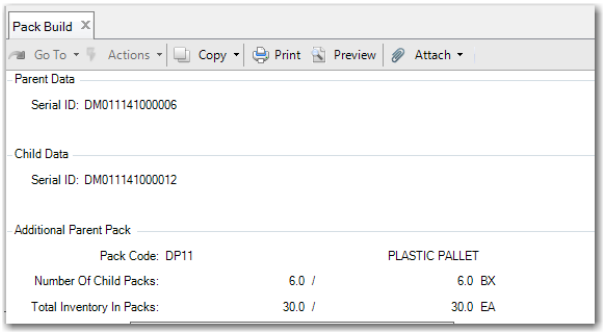
Quantity. Enter the quantity of the item to be loaded into its parent pack. You cannot enter a negative number.

Address. Enter an address or site. The system uses it to find the BOP code.

Additional Parent Pack Frame

When the parent pack is an existing pack, the Additional Parent Pack Data frame is display only; otherwise, you can enter the pack code and specify the standard pack quantity.

Fig. 4.31
Additional Parent Pack Frame



Pack Code. This field displays the pack code when the parent pack is an existing pack. You can modify this field only when you create a pack serial ID.

When serial control of the unit pack is set to Never in Pack Code Maintenance, the system tries to find the higher level with serial control that is not set to Never, and the system multiplies the quantity per of the parent level with the quantity per of current level.

If this pack is a new unit pack or assembly pack, the system determines the BOP code from Item Packaging Maintenance, based on item, site, and address. It then defaults the unit pack code in the packaging structure to this field.

Number of Child Packs. This field is editable when you create a new assembly pack. There are two values:

- The first is the actual number of child packs.
- The second is the standard capacity of the parent pack.

For newly created unit packs, the two fields are display only and always have a value of 1. For newly created assembly packs, you can enter the second field but you cannot enter a negative number.

Total Inventory in Packs. This field is editable when you create a new unit pack. There are two values:

- The first is the actual number of inventory items in the pack.
- The second is the standard capacity of the parent pack.

For example, when:

1 Pallet = 5 Cases

1 Case = 100 units

Then the second field is 5*100 = 500 units.

For assembly packs, the two fields are display only. For newly created unit packs, you can edit the second field, but you cannot enter a negative number.

Pack Commission

Use Pack Commission (3.17.4) as another method to build packs. You start by identifying inventory; then, you determine the packaging structure, based on the predefined BOP structure definition.

You can define a pack commission as well as a pack build. When you do, the system automatically creates serial IDs based on the selected BOP and packaging content configurations that you manually change.

You can also adjust the actual BOP structure, based on the inventory quantity you select.

Pack Commission starts with inventory to pack and then creates packs, based on the pack configuration. Pack Build, another Serialization pack program, also lets you build new packs or load inventory into existing packs, but it does not start with inventory; however, it does need available inventory. Pack Create, another Serialization pack program, does not require that inventory be available.

Navigation

Enter inventory information in the Inventory frame. The system builds packs, based on the information you enter. Make sure that inventory is available and there is enough inventory that is not yet serialized.

In the Origin/Destination frame, enter information to determine BOP code and Sequence ID.

In the BOP Code frame, enter the BOP code.

Procedure

1. Enter the full master pack and incomplete master pack.

   When the quantity in the master pack exceeds the capacity, the system displays a warning, informing you that incomplete master packs will be overloaded.

   The system displays the pack configuration frame based on the number of incomplete master packs and configures incomplete master packs. The system generates serial IDs and prompts you to display them.

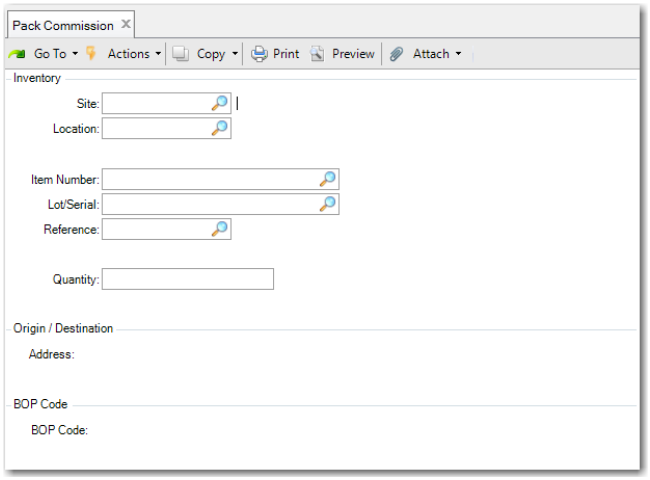
2. When all information is correct, respond Yes to the prompt to create serial IDs with stage set to Active.

   For child packs, the stage is aggregated. The system displays the printer selection frame when the Label Printing module is installed.

   When the quantity in the full master pack plus the quantity in the incomplete master pack is less than or greater than the quantity you enter in the Inventory frame, the system prompts you to replace the quantity to commission with the quantity in the full master pack plus the incomplete master pack quantity.

   When you respond with Yes, the system updates the quantity to commission.

Fig. 4.32
Pack Commission (3.17.4)



Site/Location. Enter the site and the location in which the item is stored.

Item. Enter the item to be packed. You cannot leave this field blank.

Lot/Serial. Enter the lot/serial associated with the item.

Reference. Enter the reference associated with the item.

Quantity. Enter the quantity of the item to be packed. The value you enter determines the quantity of the generated serial ID. You cannot leave this field blank.

Address. Enter a valid partner address. The address determines the BOP code. You cannot leave this field blank.

BOP Code. Enter the valid BOP code for the pack.

Pack Remove

Use Pack Remove (3.17.5) to remove inventory from a unit pack, or remove lower-level packs or items from an assembly pack. You can remove all or part of the inventory from the unit pack or assembly pack. Only one level of pack remove is supported. When the parent pack is empty after removal, the system decommissions the parent pack.

Navigation

This program has several frames.

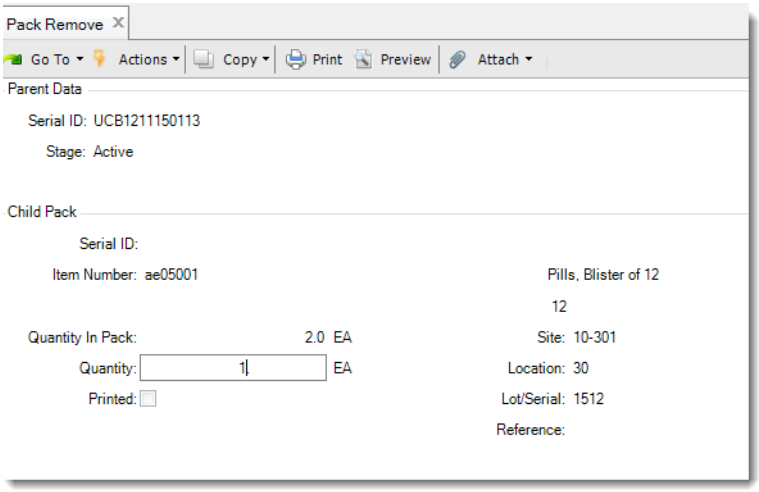
Enter the serial ID in the Parent Data frame. When you do, the system displays the Child Pack frame.

In the Child Pack frame, enter the serial ID of the lower-level pack or item that you want to remove from the parent pack. Or, enter the information of non-serialized inventory at the lower level to remove it from the parent pack.

You can also remove a serialized item directly from the serial hierarchy by entering the item serial ID in the Parent Data frame. Then answer Yes to the prompt.

All fields in the Additional Parent Pack Data frame are display only and show you the pack code, number of child packs, and the total inventory in packs.

Fig. 4.33
Pack Remove (3.17.5)



Serial ID. Enter the serial ID of the master pack from which you want to remove lower-level packs or items. Or, enter an item serial ID to directly remove it from its serial hierarchy. You cannot leave this field blank.

Serial ID. Enter the serial ID of a lower-level pack or item to remove it from the parent pack. This field is disabled when the parent pack does not contain packs or serialized items at the lower level.

Item Number. When enabled, specify the non-serialized item that you want to remove from its parent.

Lot/Serial. When enabled, specify the lot/serial number of the items that you want to remove from its parent.

Reference. When enabled, specify the reference of the items that you want to remove from its parent.

Quantity. When enabled, enter the quantity of the items to remove from its parent. You cannot enter a negative number, and the value cannot exceed the quantity currently in the pack.

Pack Code. This field is display only and shows the pack code of the parent serial.

Number of Child Packs. This field is display only and shows the number of child packs. For a unit pack, the values in the two fields are always 1.

Total Inventory in Packs. This field is display only and shows the total inventory in packs.

Pack Decommission

Use Pack Decommission (3.17.6) to do any of the following:

- Remove all lower-level packs and items from an assembly pack and decommission the assembly pack. After decommissioning, the assembly pack becomes *Decommed*, and all child packs and serialized items at the lower level become *Active*. Non-serialized items at the lower level become loose inventory. Package structures of the child packs remain the same.
- Remove all inventory units from a unit pack and decommission the unit pack. After the decommissioning, the unit pack becomes *Decommed*. Serialized items in the unit pack become *Active*. Non-serialized items become loose inventory.
- Decommission the whole package structure of an assembly pack. After the decommissioning, all packs at any level become *Decommed.* Serialized items become *Active*. Non-serialized items become loose inventory.

Navigation

There are several frames in this program.

In the Parent Data frame, enter the serial ID of the pack to decommission.

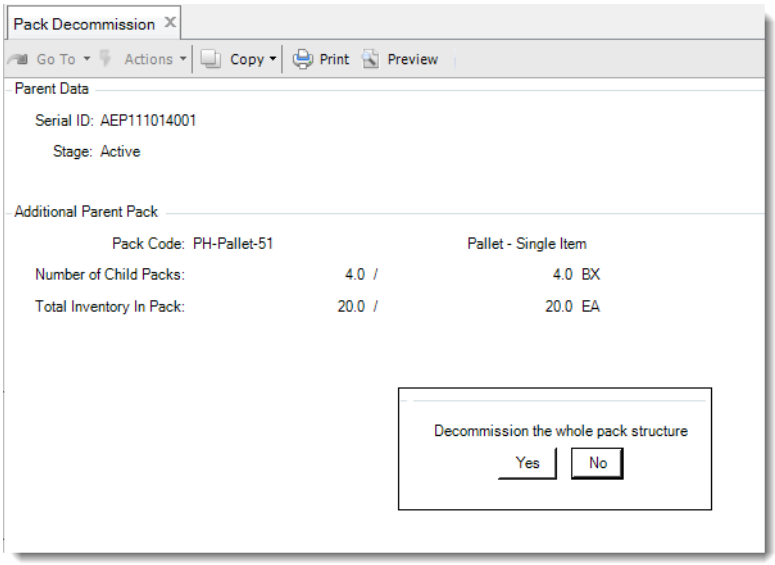
In the Additional Parent Pack frame, all fields are display only. The system displays additional information about the parent pack, including:

- Parent pack data
- Number of child packs - the number of current child packs and standard pack quantity of the parent pack
- Total Inventory in Packs - the total number of inventory items currently in the parent pack and the standard quantity of inventory items that can be held in the parent pack

The system prompts you to display the content of the pack. When you specify Yes, the system displays the Lower-Level Pack frame, which includes the serial/item number, pack code, and quantity in pack and its UM. All lower-level packs and items are listed.

If you enter an assembly pack, the system prompts you to decommission the whole pack structure. When you select Yes, the system decommissions the assembly pack and all packs at any level within it.

Fig. 4.34
Pack Decommission (3.17.6)



Note Other fields are described under other packaging transaction programs.

Serial ID. Enter the active serial ID of the pack to decommission. When it is an assembly pack, the system removes all lower-level packs and items from it. When it is a unit pack, the system unpackages all inventory in it.

Pack Stage Change

Use Pack Stage Change (3.17.10) to change the stage of packs between inactive stages. Inactive stages include the Booked, New, Pending, Consumed, Decommed, Unused, and Inv Adjusted stages.

You cannot change the stage code to Consumed, Active, Picked, or Pending in this program. The system records the serial history.

The system can take several types of action when you change stages. Validations, too, occur differently, depending upon the type of change. The following topics present all system actions by number, followed by system validations by number. After that, topics explain each stage change, telling you which system action number and which validation number apply to the change.

You can use the .NET UI Multiple Pack Stage Change program to change serial ID stages in bulk based on various filtering criteria such as master serial ID, site, and location.

System Actions and Validations

Use the numbers associated with the system actions and validations described in this topic with information in Table 4.5 to determine valid changes and system responses.

The system can take any of the following actions:

1. Clear pack code.
2. Clear item number, lot/serial, and reference.

3. Clear site and location.

4. Change stage code.

5a. Decommission a whole structure and make the same changes to all serial IDs in the structure

5b. decommission a whole structure and make the same changes to all serial IDs in the structure except for the item serial IDs.

6. Clear order information except for the booked SO (or customer scheduled order).

7. Clear Qty in Pack.

8. Clear Standard Pack Quantity and Content UM.

The system can validate as follows:

v1. When not booked to an SO (or customer scheduled order), the system cannot change the stage to Booked.

v2. Item serial IDs are not supported.

v3. When the serial ID is booked to an SO, the system cannot change the stage to New.

v4. When the serial ID is *not* linked with a shipper, the system cannot change the stage to Inv Adjusted.

Table 4.5
Changes from Stage to Stage

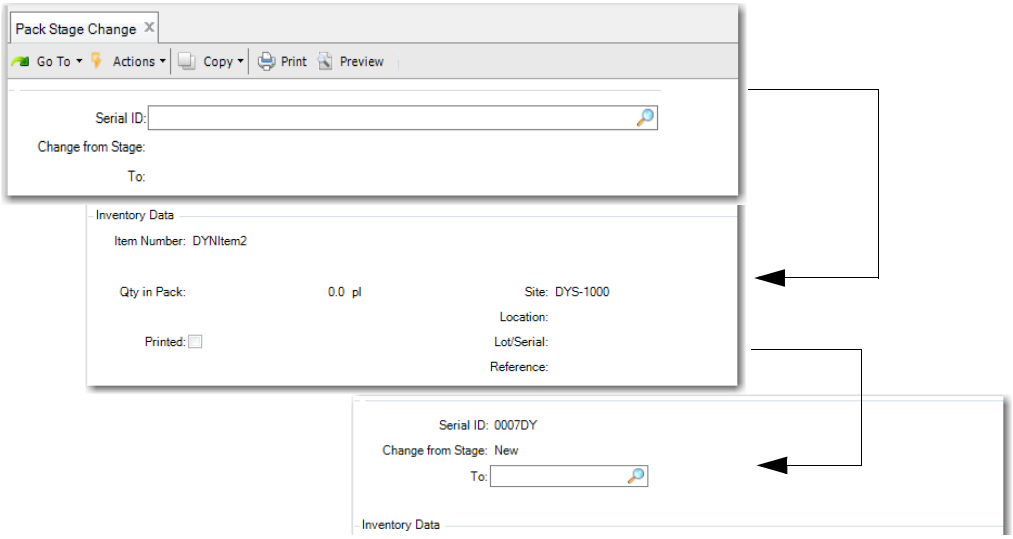
Current Stage	To Booked	To New	To Pending	To Consumed	To Decommed	To Unused	To Inv Adjusted
Booked	NA	No	No	No	No	4, 6, 7, 8	No
New	1, 2, 3, 4, 7, 8, v1	NA	No	No	2, 3, 4, 6, 7, 8	1, 2, 3, 4, 6, 7, 8	No
Pending	1, 2, 3, 4, 5a, 7, 8, v1	4, 5a, 6, 7, v3	NA	No	2, 3, 4, 5a, 6, 7, 8	1, 2, 3, 4, 5a, 6, 7, 8	4, 6
Consumed	1, 2, 3, 4, 5b, 7, 8, v1, v2	4, 5b,6, 7, v2, v3	No	NA	2, 3, 4, 5b, 6, 7, 8, v2	1, 2, 3, 4, 5b, 6, 7, 8, v2	4, v2, 6, v4
Decommed	1, 4, 7, 8, v1	4, 6, 7, v3	No	No	NA	1, 4, 6, 7, 8	No
Unused	4, 7, 8, v1	No	No	No	No	NA	No
Inv Adjusted	1, 2, 3, 4, 5a, 7, 8, v1	4, 5a, 6, 7, v3	No	No	2, 3, 4, 5a, 6, 7, 8	1, 2, 3, 4, 5a, 6, 7, 8	NA

Navigation

Enter the serial ID to be changed in the first frame. The pack or item serial entered here must be inactive. The system displays inventory information in the Inventory Data frame. The system also displays linked order information in the Order Information frame.

The system displays the current stage in the Change From Stage field. You specify the new stage in the To field.

Fig. 4.35
Pack Stage Change (3.17.10)



Serial ID. Enter the serial ID whose stage you want to change. The system displays inventory data related to the serial ID and defaults the Change from Stage field to the current stage.

To. Enter the stage to which you want to change the serial ID.

Pack Merge

Use Pack Merge (3.17.15) to combine the content of two serial IDs. By specifying the From serial ID and the To serial ID, you move the content of the From serial ID to the pack of the To serial ID. After merging, the stage of the From pack becomes *Decommed*. All content of the From pack becomes the content of the To pack. If the From serial ID is an item serial ID, after merging, it becomes *Aggregated* on the To serial ID. Picking and pegging information of the From serial ID is copied and merged with that information of the To pack.

You can use Pack Merge to do either of the following:

- Merge the content of one active serial ID into another active pack, including:
  - Merging the content of an active unit pack into another active unit pack that holds the items of the same combination of item, lot, reference.
  - Merging the content of an active assembly pack into another active assembly pack, when the units of measure of their child packs are the same.
  - Merging an active item into an active unit pack that holds the same item with the same combination of item, lot, and reference.
- Merge the content of one picked serial ID into another picked pack, including:
  - Merging the content of a picked unit pack into another picked unit pack.
  - Merging the content of a picked unit pack into a picked assembly pack.
  - Merging the content of a picked assembly pack into a picked unit pack.
  - Merging the content of a picked assembly pack into another picked assembly pack.
  - Merging a picked item into a picked unit pack.

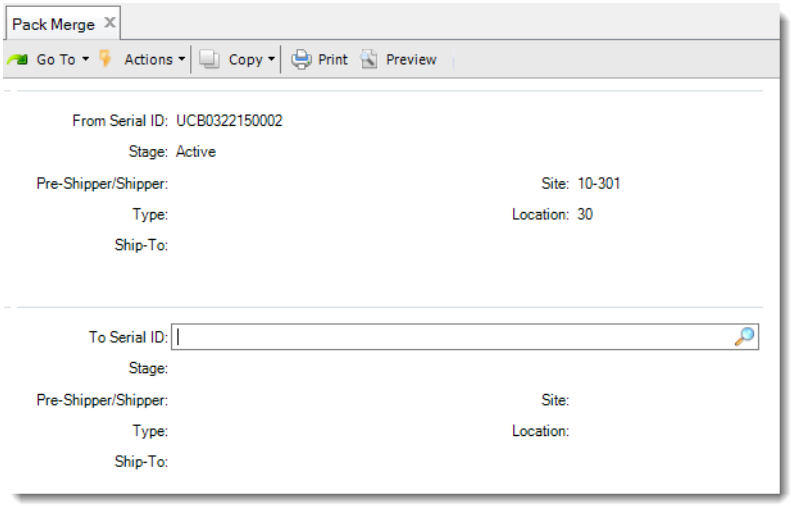
Note When a direct-content item of the From serial ID has the same item, lot, and reference information as a direct-content item of the To pack, make sure that they are picked for the same DO.

The From and To serial IDs can be linked with different pre-shippers or shippers. Make sure that neither pack contains kit component items and that the two pre-shippers or shippers have the same ship-from and ship-to. The system moves the From serial ID to the pre-shipper or shipper linked with the To serial ID, and continues with merging when you confirm with Yes.

When the item, lot, and reference combination in the From serial ID is different from that in the To serial ID, the system validates the Single Item and Single Lot options of the pack code of the To serial ID.

When the From and To serial IDs are in different site/location, you see a warning message displayed. This message informs you that the system will transfer the From serial ID to the site/location of the To serial ID.

Fig. 4.36
Pack Merge (3.17.15)



From Serial ID. Enter the serial ID of a pack or an item whose content you want to merge into another pack. The stage of this serial ID can be *Active* or *Picked*. If it is active, make sure that it is not linked with any DO request.

To Serial ID. Enter the serial ID of a pack that receives the content of the From serial ID. When the From serial ID is *Active*, enter an *Active* To serial ID, and make sure that this To serial ID is not linked with any DO request. When the From serial ID is *Picked*, enter a *Picked* To serial ID. If the From serial ID or any of its content is booked for an SO line, make sure that the entered To serial ID is booked for the same master SO line. If the From serial ID or any of its content is not booked for an SO line, make sure that the To serial ID is not booked for any SO line, either.

Pack Split

Use Pack Split (3.17.16) to remove all or partial inventory from the original pack and build it into a destination pack.

In the From Serial ID field, specify the master pack from which you want to remove inventory.

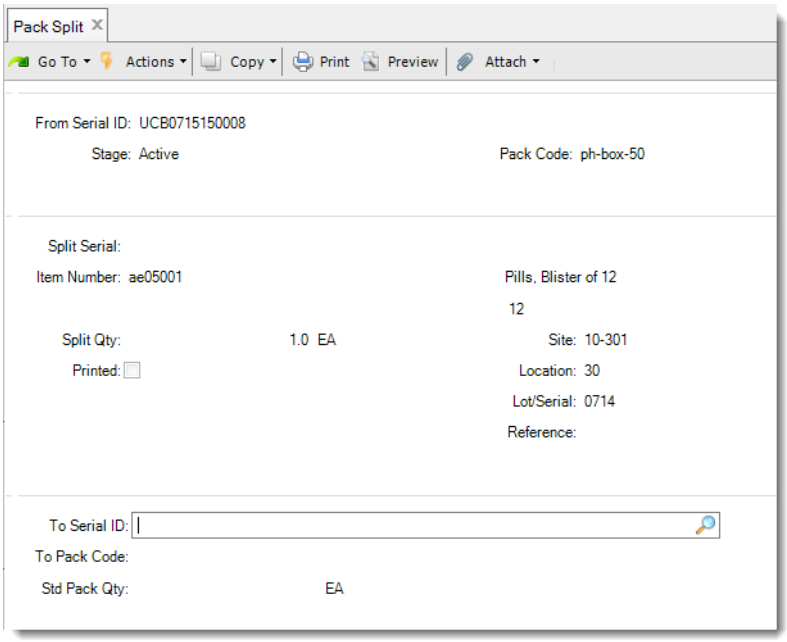
If the specified pack is a unit pack that holds non-serialized items, in the Split Qty field, enter the inventory quantity that you want to remove.

If the specified pack is an assembly pack, or a unit pack that holds serialized items, in the Split Serial field, enter the child serial IDs one by one to remove them. You can leave this field blank to remove all child serial IDs at the same time.

Then click Back to go to next frame. Specify the destination pack to receive the inventory that is removed from the original pack.

After the pack split, removed inventory is built into the To serial ID. The To serial ID becomes *Active* and stays in the same site/location as the original pack. Optionally, you can leave both To Serial ID and To Pack Code fields blank to let the removed serial IDs or inventory become *Active* packs or items, or loose inventory. When the original pack becomes empty after inventory removal, the system decommissions the original pack.

Fig. 4.37
Pack Split (3.17.16)



From Serial ID. Enter the serial ID of an original pack from which you want to remove inventory. Make sure that the stage of the entered pack is *Active*, and *not* linked with a DO.

Split Serial. This field is editable when the entered From serial ID is an assembly pack, or a unit pack that holds serialized items. Enter the child serial IDs of the From serial ID that you want to remove one by one. Or you can leave this field blank to remove all child serial IDs at the same time.

Split Qty. This field is editable when the entered From serial ID is a unit pack that holds non-serialized items. Enter the quantity that you want to remove. The default value is the inventory quantity in the unit pack. If the From serial ID is an assembly pack, or a unit pack that holds serialized items, this field is display only, and shows the inventory quantity of the entered Split Serial.

To Serial ID. Specify a destination pack to receive the inventory that is removed from the original pack. Or leave this field blank. When you enter a serial ID, its stage can be *New*, *Booked*, *Decommed*, or *Active*. If you enter an *Active* serial ID, make sure that it is *not* linked with a DO and that its site/location is the same as the From serial ID. If the entered From serial ID is booked for a master SO line, make sure that the To serial ID is booked for the same master SO line. If the From serial ID is not booked, the To serial ID cannot be booked, either. The system also compares the UM of the original child of the To serial ID against the UM of the Split Serial or item. Make sure that they are the same.

To Pack Code. This field is editable when you enter a *Booked* To serial ID or leave the To Serial ID field blank.

When you enter a *Booked* To serial ID, you specify the pack code to apply to the serial ID.

When you leave the To Serial ID field blank, you can enter a pack code for the system to generate a serial ID as the destination pack. If the From serial ID is booked for a sales order, the system picks a serial ID from the pool of booked serial IDs. Specified pack code and standard pack quantity are applied to the selected serial ID.

When you leave the To Serial ID field blank, optionally, you can leave the To Pack Code field blank. In this way, you let removed inventory become loose inventory, or *Active* packs or items, depending on the entered From serial ID.

Std Pack Qty. This field is editable when you enter a *Booked* To serial ID or leave the To Serial ID field blank. You can specify the standard quantity of inventory items that can be held in the generated destination pack.

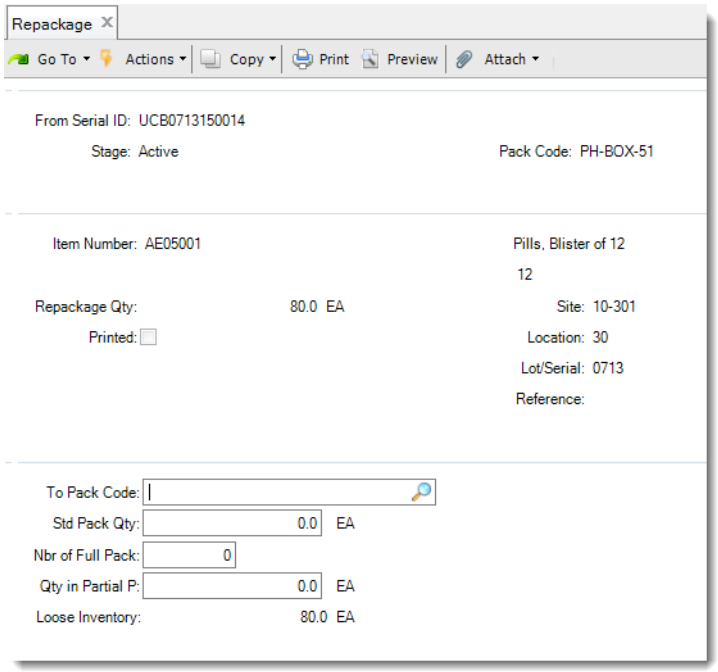
Repackage

Use Repackage (3.17.17) to repackage inventory that is stored in an *Active* unit pack. This function only allows you to repackage unit packs that hold non-serialized items.

By repackaging, you move all or partial inventory out of the unit pack, and then build all or part of the repackaged quantity into newly generated packs. If you build part of the repackaged quantity into packs, the remaining part of the repackaged quantity becomes loose inventory. The system generates new packs based on the pack code and standard pack quantity that you specify. If the unit pack is booked for an SO line, the system picks the serial IDs from the pool of *Booked* serial IDs. The system applies the entered Pack Code and Pack Quantity to those serial IDs.

After repackaging, the newly generated pack serial IDs become *Active* and stay in the same site/location as the original pack. The system decommissions the original unit pack when it becomes empty after repackaging.

Fig. 4.38
Repackage (3.17.17)



From Serial ID. Enter the serial ID of a unit pack for which you want to do repackaging. This unit pack can only be *Active* and holds non-serialized items.

Repackage Qty. Specify the inventory quantity that you want to remove from the unit pack and repackage. The default value is the current quantity in the pack.

To Pack Code. Enter a pack code for the system to generate new packages for the repackaged quantity of inventory.

Std Pack Qty. Specify the number of items in a standard generated pack.

Nbr of Full Pack. Enter the number of full packs to generate.

Qty in Partial Pack. Enter the number of items to store in the partial pack.

Loose Inventory. This field is display only. The system calculates its value based on the following:

*Loose inventory = Repackaged quantity – (Standard pack quantity * Number of full packs + Quantity in partial pack)*

Cycle Counting

The system considers serialized IDs in cycle counting.

When you begin cycle counting, you count all packs at a location at the same time and in the same batch. You can decide when counts are at the master pack level, or when each lower-level pack is also counted. The system assumes that when a lower-level pack is counted, all lower-level packs are also counted for the counted master pack. When you count only some lower-level packs, the system assumes that the non-counted lower-level packs are missing and adjusts those packs in inventory. When you count only the master pack and no lower-level packs, the system assumes

that all inventory associated with the master pack is accounted for. When you count only a lower-level pack at a location, but the pack was expected to be on a master pack in a different location, the system removes the pack from the master pack and adds it to the inventory at the counted location.

You can use the following existing programs to perform counts for serialized inventory:

- Cycle Count Worksheet Print (3.13.1)

  This program lets you create a worksheet to record the results of cycle count. If you set the Print Serial ID filter to Yes, the system prints serial hierarchies on the worksheet. Serial IDs are displayed on the worksheet by item and lot combination.
- Cycle Count and Recount Entry by Location
- Cycle Count Results Browse Collection

You enter the time for cycle count batch processing in the Cycle Count Batch Active (D H: M) field in Serialization Control. Once you initiate a cycle count for a location, the system initiates a new batch at the same time. The batch expires after this amount of time has elapsed.

Cycle Count and Recount Entry by Location

Use Cycle Count Entry by Location (3.13.13) to count the number of items by site and location. This program counts inventory by serial ID, but does not count or validate package structures.

Note You can use Cycle Recount Entry (3.13.14) in the same way, except that it recounts items and changes the inventory balance to equal the number counted even if it is out of tolerance.

Important Do not use Cycle Recount Entry by Location when a batch of the initial count is *not* yet closed. Likewise, when a batch of the recount is *not* closed, do not use Cycle Count Entry by Location.

You can count:

- Packs
- Loose serialized items
- Loose non-serialized items

When you enter a pack serial ID, the system only counts the items matching with the entered item when multiple items are in the pack.

More than one user can count the same item for the site and location. The system creates a batch ID to support multiple users to count different packs for the same item. When different users enter the same site/location/item, they get the same batch ID, and each user can enter a different lot/serial/reference or serial ID. However, only one user can close the batch to indicate that the cycle count for the site/location/item is complete. When the batch ID is expired, the system sets the batch ID to be expired and creates a new one. If the active batch is not expired, the system uses the current batch ID to record cycle count results. You set the batch processing time in Serialization Control.

For initial count, when the cycle count completes, the system accepts the count and changes the inventory balance to the quantity counted when:

- There are no problems to manually fix.
- The count matches the system quantity on hand.

- The difference in the count is within predefined error tolerances.

  The system determines whether the counted inventory is out of tolerance based on the site, location, lot/serial, and reference combination.

At the same time, for the packs matching one of the following conditions, the system automatically fixes them.

- A pack is found with stage set to Inv Adjusted or aggregated on an Inv Adjusted pack.

  This means that the system recorded the pack missing, but as it is physically in the current location, the system does not consider it when you cycle-count in that location.

  When the pack is a master pack, the system takes the following actions:

  1. Reactivates the packs that contain the counted items.
  2. When the specified pack contains items not in a unit pack, the system decommissions the branch that contains items not in a unit pack to the inventory level.
  3. When the specified pack contains a unit pack where items are of multiple combinations of item, lot, and reference, the system decommissions the unit pack and assembly packs that only contain it.

  When it is a second-level pack, the system automatically removes it from the master pack and then takes those numbered actions.

- A pack is found with stage set to Active or Picked or aggregated on an Active pack, but it is recorded in another location in the system.

  This means that the pack was physically transferred, but the system did not record the transfer. When the pack is a master pack or a second-level pack, system automatically transfers it and performs a pack remove if necessary.

- A pack is found with stage set to Consumed or aggregated on a Consumed pack, and it is linked with a shipper.

  This means that the pack is recorded as issued for a customer, but physically it is still in the warehouse.

  When the pack is a master pack, the system takes the following actions:

  1. Reactivates the packs that contain the counted items.
  2. When the specified pack contains items not in a unit pack, the system decommissions the branch that contains items not in a unit pack to the inventory level.
  3. When the specified pack contains a unit pack where items are of multiple combinations of item, lot, and reference, the system decommissions the unit pack and assembly packs that only contain it.

  When it is a second-level pack, the system automatically removes it from the master pack and removes the relationship with the shipper.

- A pack cannot be found.

  This means that the pack is in the location in the system, but physically it is missing. When the stage is set to Active, the system changes the stage to Inv Adjusted, and performs a pack remove if necessary.

- A pack is found, but its parent pack is missing.

This scenario means that in the system, the pack is aggregated on its master pack and recorded in a current location. But physically, only the pack can be found, and its parent pack is missing. When the stage of the parent pack is not Picked, the system automatically removes the pack from its parent pack, and does not consider the parent pack.

You are required to manually correct the following situations by manually entering IDs, as the system does not automatically fix these situations:

- The counted serial ID does not exist in the system.
- The counted serial ID is set to the Booked, New, Pending, or Decommed stage.
- The counted serial ID is set to the Consumed stage and not linked with a shipper.
- The counted serial ID is set to the Consumed or Active stage, but linked with a return pre-shipper/shipper.
- The item held in the counted serial ID does not match with the counted item.
- Negative loose inventory is counted in the inventory location detail that has serialized packs.
- The serial ID is picked, but missing.

Counting Closed Top-Level Packs

To count a closed top-level pack, in the Serial ID field, enter the top-level pack serial ID. The system adds it to the count list, and marks it as closed. The system updates Cum Expected, Cum Counted as following:

Note For all these scenarios, only the quantity of the matching item is considered.

- If the pack is active or picked, and recorded in current site/location, the system increases both Cum Expected and Cum Counted by Qty in Pack of the entered serial ID.
- If the pack meets one of the following conditions, the system only increases Cum Counted by Qty in Pack of the entered serial ID:
  - The pack is Inv Adjusted.
  - The pack is recorded in another site/location.
  - The pack is consumed by a shipper.
- For all other scenarios, the system does not change Cum Expected and Cum Counted.

When the serial ID is marked as closed, you can enter it again in the serial ID field to remove it from the count list. The system decreases Cum Expected and Cum Counted by Qty in Pack of the entered serial ID.

When a pack meets either of the following conditions, it can only be counted as a closed pack. You cannot open it to count its content. If the pack is not counted, the system marks all its inventory as missing.

- It is a unit pack that contains items of multiple combinations of item number, lot, and reference.
- It is an assembly pack that contains items not in a unit pack.

Counting Open Assembly Packs

To count an open assembly pack, in the Serial ID field, enter the serial ID of the assembly pack.

- If it is a top-level pack and one of its lower-level packs is already in the count list, the system marks it as open and warns you to enter all its lower-level packs. If the top-level pack is active in the current site/location, the system does not change Cum Counted, but increases Cum Expected by:

  (Qty in Pack of the master pack - sum of Qty in Pack of packs that are both in the count list and belong to this master pack)
- If it is aggregated, and its master pack is not in the count list and the master pack stage is not picked or pending, the system prompts you to indicate whether its master pack is open.
  - When you answer Yes, the system adds its parent up to the master pack to the count list, and marks them as open. If the master pack is active in the current site/location and none of the packs held in its master pack are already in the count list, the system increases Cum Counted by Qty in Pack of the entered Serial ID and Cum Expected by Qty in Pack of its master pack. Otherwise, the system increases Cum Counted by Qty in Pack of the entered Serial ID and Cum Expected by:

    (Qty in Pack of the master pack - sum of Qty in Pack of packs that are both in the count list and belong to this master pack)
  - When you answer No, and its master pack is active in current site/location, the system increases Cum Expected and Cum Counted by Qty in Pack of the entered Serial ID.
  - When you answer No, and its master pack is in the stage of Inv Adjusted, recorded active in other site/location, or consumed by a shipper, the system increases Cum Counted by Qty in Pack of the entered Serial ID.
- If it is aggregated and its master pack is already in the count list:
  - If its master pack is open, the system increases Cum Counted by Qty in Pack of the entered Serial ID.
  - If its master pack is closed, the system changes it to open. The system first decreases Cum Counted by Qty in Pack of the master pack and then increases Cum Counted by Qty in Pack of the entered Serial ID.
  - For all other scenarios, the system does not change Cum Expected and Cum Counted.
  - When one higher-level pack of the entered serial ID is in not in the count list, the system adds it to the count list and marks it as open.

When the master pack of the entered serial ID is open in the count list, you can enter it again to remove it from the count list. The system decreases Cum Counted by Qty in Pack of the entered serial ID.

Counting Open Unit Packs

To count an open unit pack, in the Serial ID field, enter the serial ID of this unit pack and press Enter. Then enter this serial ID again in the same field and press Enter. The system displays the inventory frame.

- When the item is non-serialized, enter the quantity counted.
- When the item is serialized, enter item serial IDs one by one.

  After you enter an item serial ID, the system adds the item serial ID to the count list.
  - If the item is aggregated on the specified unit pack, the system increases the Quantity Counted by 1, and then updates the Cum Counted.

- If the item is not aggregated on the specified unit pack, the system displays updates Cum Expected and Cum Counted as follows:
  - When the Item Serial ID is active or picked in current site/location, increases Cum Expected and Cum Counted
  - When the Item Serial ID is Active, picked in another site/location, Inv Adjusted, or consumed by a shipper, increases Cum Counted
- You cannot count the content of a picked or pending pack. So if the item is aggregated on a picked or pending master pack, you cannot enter it in the Item Serial ID field.
- If the item is aggregated, and its master pack is not in the count list and not Picked or Pending, the system prompts you to indicate whether its master pack is open.
  - When you answer Yes, the system adds its parent up to the master pack to the count list, and marks them as open. If the master pack is active in the current site/location and none of the packs held in its master pack are already in the count list, the system increases Cum Counted by 1 and Cum Expected by Qty in Pack of the master pack. Otherwise, the system increases Cum Counted by 1 and Cum Expected by:

  (Qty in Pack of the master pack - sum of Qty in Pack of packs that are both in the count list and belong to this master pack)
  - When you answer No, and its master pack is active in the current site/location, the system increases Cum Expected and Cum Counted by 1.
  - When you answer No, and its master pack is in the stage of Inv Adjusted, recorded active in other site/location, or consumed by a shipper, the system increases Cum Counted by 1.
- If the item is aggregated, and its master pack is already in the count list:
  - If its master pack is open, the system increases Cum Counted by 1.
  - If its master pack is closed, the system changes it to open. The system first decreases Cum Counted by Qty in Pack of the master pack and then increases Cum Counted by 1.
- If the entered Item serial ID is already in the count list, the system displays a warning message and removes it from the count list. The system decreases Cum Counted and Quantity Counted.

Counting Loose Serialized Items

To count loose serialized items, in the Serial ID field, enter the item serial ID.

The system updates Cum Expected and Cum Counted as follows:

If the entered item serial ID is active or picked in the current site/location, the system increases Cum Expected and Cum Counted.

If the entered item serial ID is active or picked in another site/location, inventory adjusted, or consumed by a shipper, the system increases Cum Counted.

If the entered item is aggregated, and its master pack is not in the count list and not Picked or Pending, the system prompts you to indicate whether its master pack is open.

- When you answer Yes, the system adds its parent up to the master pack to the count list, and marks them as open. If the master pack is active in the current site/location and none of the packs held in its master pack are already in the count list, the system increases Cum Counted by 1 and Cum Expected by Qty in Pack of the master pack. Otherwise, the system increases Cum Counted by 1 and Cum Expected by:

  (Qty in Pack of the master pack - sum of Qty in Pack of packs that are both in the count list and belong to this master pack)
- When you answer No, and its master pack is active in the current site/location, the system increases Cum Expected and Cum Counted by 1.
- When you answer No, and its master pack is in the stage of Inv Adjusted, recorded active in another site/location, or consumed by a shipper, the system increases Cum Counted by 1.

If the item is aggregated, and its master pack is already in the count list:

- If its master pack is open, the system increases Cum Counted by 1.
- If its master pack is closed, the system changes it to open. The system first decreases Cum Counted by Qty in Pack of the master pack and then increases Cum Counted by 1.

You cannot count the content of a picked or pending pack. So if the item is aggregated on a picked or pending master pack, you are not allowed to enter it in the Serial ID field.

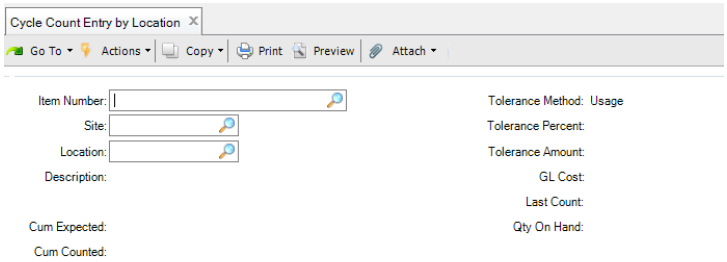
When the item serial ID is already in the count list, you can enter it again to remove it from the count list. The system decreases Cum Counted.

Counting Loose Non-Serialized Items

To count loose non-serialized items, leave the Serial ID field blank.

Then in the displayed inventory frame, enter the quantity counted, and lot/serial, reference data1. The system updates Cum Counted based on Quantity Counted.

Fig. 4.39
Cycle Count Entry By Location (3.13.1)



Item Number. Enter the item to be counted on the site and location.

Location. Enter the location for the item to be counted.

Site. Enter the site for the item to be counted.

Cum Expected. The system displays the running total of quantity on hand of all entered serial IDs.

Cum Counted. The system displays the running total of counted quantity of all entered serial IDs.

Tolerance Method. The system displays the Tolerance Method in the system.

Tolerance Percent. The system displays the Tolerance Percent in the system.

Tolerance Amount. The system displays the Tolerance Amount in the system.

GL Cost. The system displays the GL Cost in the system.

Last Count. The system displays the last count of the item.

Qty on Hand. The system displays the quantity on hand of the item.

Serial ID. Enter the pack or item serial ID to be counted.

Note If the serial ID you enter is associated with another location, as long as no open warehousing task exists for this item/site combination, the system still does the count. The system automatically transfers the items to the current location after the batch is closed successfully.

Note When you click Back on the Serial ID field, the system prompts you to complete the cycle count.

When you click Delete on the Serial ID field and the serial ID is not in the count list, the system displays an error message. Otherwise, the system removes the serial ID and all its lower-level packs from the count list, and updates the Cum Expected and Cum Counted values.

Item Serial ID. Enter the item serial ID, one item at a time, when an item is serialized.

Quantity Counted. The system displays the items counted in the entered unit pack. When the item is serialized, this field is the running total of entered Item Serial ID of the unit pack and is display only.

Lot/Serial. For a loose item, enter a valid lot/serial ID. For other scenarios, this field is display only.

System Quantity. The system displays the quantity on hand in the system.

Reference. For a loose item, enter any reference data for the items. For other scenarios, this field is display only.

Amount Variance. The system displays a value in this field when you close the batch.

Annual Usage Variance. The system displays a value in this field when you close the batch.

Quantity on Hand Variance. The system displays a value in this field when you close the batch.

Remarks. The system displays any remarks associated with this transaction.

Effective Date. The system displays the GL effective date of the transaction

Debit Account. The system displays the GL debit account of this transaction.

Cr. The system displays the GL credit account of this transaction.

Amount. The system displays a value in this field when you close the batch.

Cycle Count Results Browse Collection

Use the Cycle Count Results Browse Collection to view cycle count data for serialized items or packs. The top portion of the browse displays the last counted data, including the count date, item, site, descriptions, the ABC class, the item serialization control setting (mandatory, and so on), the location's beginning balance, quantity counted and changed, QOH variance, usage, and so on.

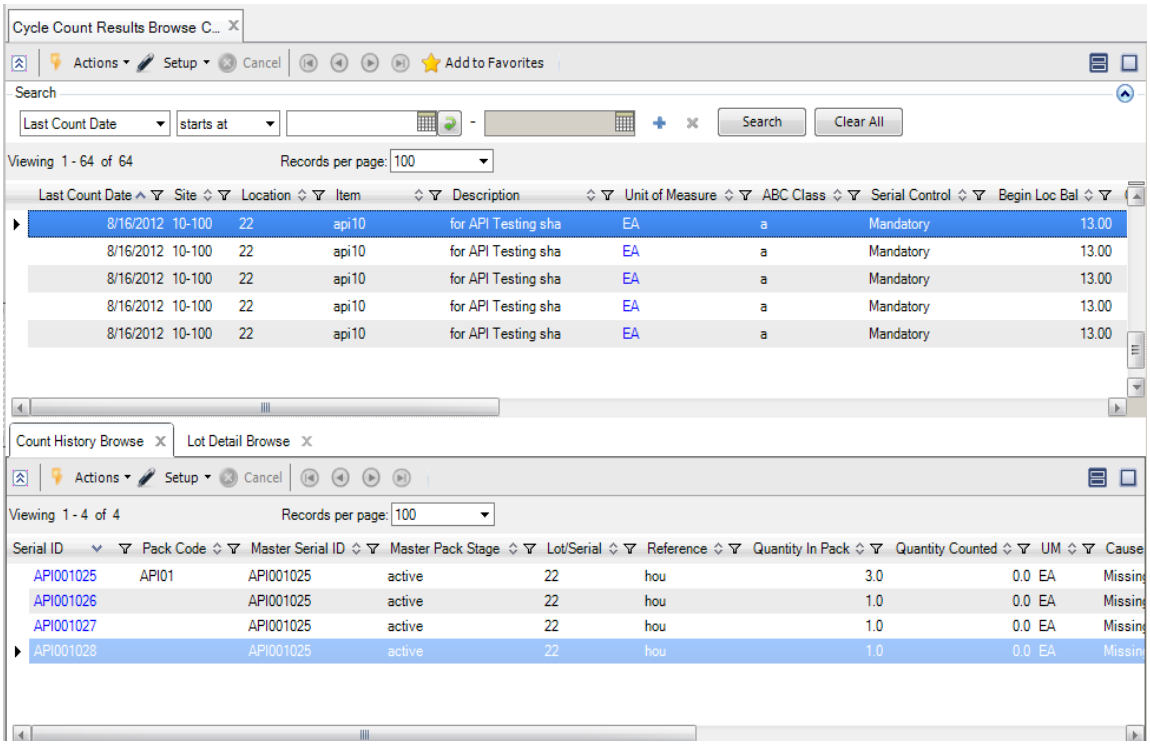
The supporting browses display the count history and the lot detail. Cycle Count Results by Pack lists summary information for each batch.

The following table presents pertinent serialized data fields in the displays and explains the data.

Table 4.6
Fields with Serialized Data

Field	Description
Serial Control	Indicates whether the item is serialized.
In Process	Indicates whether the batch is still active.
Status	The status of the cycle count: Initial, Error, or Recount.
Detail browse - Count List	All serial IDs counted for the batch are listed. If users already tried to close the batch, then missing packs are also listed
Serial ID	When the serial ID does not exist in the system, then only the serial ID is displayed. If loose items are counted, when the item is non-serialized, the serial ID is blank. When the serial ID does not match with the data in the system, the reason is described in the Cause column. Manual Intervention indicates whether users need to manually fix the problem.

Fig. 4.40
Cycle Count Results Browse Collection



Physical Inventory

You can use the following programs in the Serialized Physical Inventory menu (3.16.3) to create tags for all level packs in the location of your choice:

- Pack Tag Create
- Pack Tag Print (.NET UI)
- Pack Tag Count Entry
- Pack Tag Recount Entry
- Inventory Balance Update by Pack
- Uncounted Pack Tag Report/Update
- Tag Delete/Archive

The menu also includes the following:

- Tag Browse
- Physical Inv Serial Trans Browse
- Physical Inventory Counting Results Browse Collection

Pack Tag Create

Use Pack Tag Create (3.16.3.1) to create:

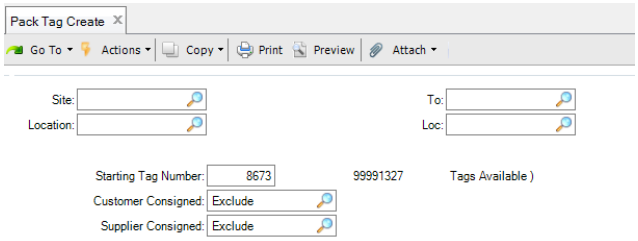
- Pack tags for all top-level packs (each site, location, master serial ID combination)
- Item tags for non-serialized loose items (non-serialized items that are not contained in a serialized pack) in the selected location

Enter ranges for site and location to filter the pack tag creation; then, enter the starting tag number to create. Finally, decide whether to create pack tags for customer or supplier consignment. The system:

- Generates pack tags for all the top-level packs whose stage is set to Active or Picked within the location you enter
- Creates pack tags for any serialized loose items (not held in any serialized pack)
- Creates item tags based on site, location, lot, or reference when there are non-serialized loose items
- Displays the total pack tags and item tags that it creates

If a top-level pack holds multiple items or lots, as long as any of its contents matches the selection criteria, the system creates a pack tag for it.

Fig. 4.41
Pack Tag Create (3.16.3.1)



Site. Enter a range of sites for the system to create tags.

Location. Enter a range of locations for the system to create tags.

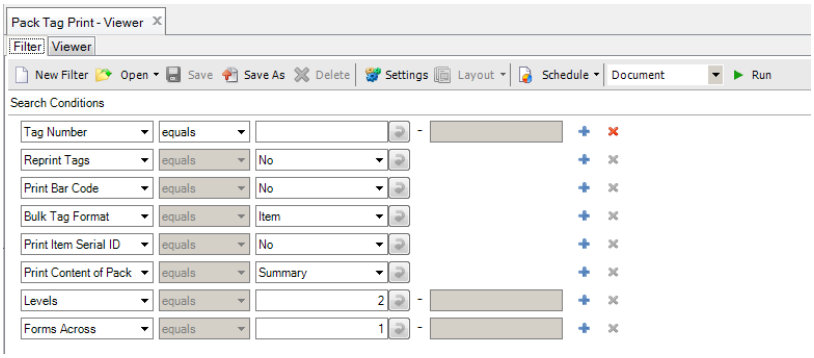
Starting Tag Number. Enter the tag number the system uses as the starting tag number when it creates pack or item tags.

Customer Consigned, Supplier Consigned. These two fields take consigned inventory into account and determine whether the system creates tags for location details that have consigned inventory. Enter Include to create tags for all location details that are within the selection range, regardless of whether the location detail has consigned inventory. Enter Exclude to let the system exclude the location details that only have customer/supplier-consigned inventory. Enter Only to let the system only create tags for location details that contain customer/supplier-consigned inventory; location details that merely have non-consigned inventory are excluded in this case.

Pack Tag Print

Use the .NET UI Pack Tag Print to print pack tags for the location. The viewer operates like .NET UI browses, letting you set criteria for printing through search operators. You can print single tags or ranges of tags by setting the criteria. Click Run to start the viewer.

Fig. 4.42
Pack Tag Print



Important fields include the following:

Tag Number. Select a range of tags or a single tag to print by the tag number.

Bulk Tag Format. Indicate the format of bulk tags to print. Enter Pack to print bulk tags as a pack tag. Enter Item to print item tags.

Bulk Pack Tag. The labels printed are the same as Pre-Created Pack Tag, except that you are required to fill in the values of Site, Location, Serial ID, and Inventory data, and the Lower Level Serial IDs section will not be listed on the tag.

Print Item Serial ID. Enter Yes to print item serial IDs.

Print Content of Pack. Indicate how the system prints the pack contents. Enter Summary to print the quantity of child packs by pack code or enter Detail to list lower-level packs by serial IDs.

If the pack data cannot be printed on a single tag, print the other information on another page, with the tag number on it.

Levels. Identify the number of levels of serial hierarchy to print on the pack tag. Only enabled when Print Content of Pack is set to Detail. Default value is 2. When 2, the system prints serial IDs of the second level on the pack tag. When set to 1, no lower-level packs print because level 1 is the top level of the serial hierarchy. Set to 0 to print all lower-level serial IDs of the pack.

Pack Tag Count and Recount Entry

Use Pack Tag Count Entry (3.16.3.3) to count inventory by packs.

Use Pack Tag Recount Entry (3.16.3.4) to recount an already-counted pack inventory. This program works in the same way as Pack Tag Count Entry. However, Pack Tag Recount Entry is different in that the system uses the recount result to update the inventory balance when both initial count and recount results exist for a tag.

For the physical counting process, you:

1. Freeze inventory balances for non-serialized loose inventory.
2. Create pack tags for each active or picked master pack.
3. Count packs.
4. Record counting results on existing tags by using this program.

Use bulk tags to record extra packs or to replace a lost pre-created pack tag.

Multiple users can work on the same location. Inventory balances change when you run Inventory Balance Update.

Counting Packs

Pack Tag Count Entry lets you:

- Count the expected closed pack.

  An expected closed pack is a pack whose pre-created pack tags for the pack counted exist and the pack is closed physically. You can only count the master pack and assume that its contents are correct.
- Count content of the expected open pack.

You can open a master pack and validate its content. The counting can take place at any level. You can record the content data on bulk tags or master pack tags; however, you cannot count the content of packs that meet any of the following conditions:

- The pack is with stage set to Picked.
- The pack is a unit pack that contains items of multiple combinations of item, lot, and reference.
- The pack is an assembly pack that contains items not in a unit pack.

- Count unexpected pack.

  An unexpected pack is a pack without pre-created pack tags. It can have an invalid stage set to New, Booked, Pending, Consumed, or Invalid, and its serial ID does not exist. Unexpected packs can also be those that the system finds in different locations. You can record unexpected packs on bulk tags.

- Count loose serialized items—items not in packs but with serial IDs.

  You can use pre-created pack tags to record the counted data.

- Count loose non-serialized items (items not in pack and without their own serial IDs).

  You can leave the Serial ID field blank to enter count data of item tags using this program.

  For missing packs, do not scan the serial ID using this program to count it; instead, use Uncounted Pack Tag Report/Update to set the count quantity to zero after you finish physical counting. The system dismisses missing data and balances inventory when you run Inventory Balance Update.

Scanning Serial IDs

When you scan or enter serial IDs, the system validates the entered IDs. When the system creates pack tags for the serial IDs that you scan, the system displays read-only tag numbers.

When there are no matching tags for the master pack, site, or location for the serial ID, you can manually enter the tag number in the Tag Number field. Make sure that the tag you enter is a bulk tag not assigned to a serial ID. You can also leave the Tag Number field blank to have the system create a bulk tag.

When the scanned serial ID has been counted already, the system uncounts it, removes the related serial history, and displays a warning message.

For each serial ID scanned and pack tag created, the system displays inventory data, creates serial history for the pack counted, then returns you to the Serial ID field to count other packs.

Inventory Data Frame

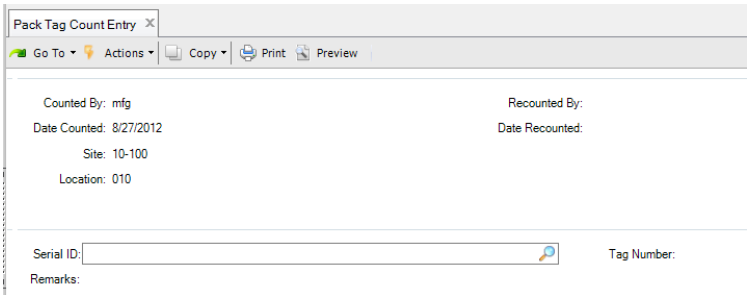
Use the Inventory Data frame to list inventory details of the pack when you scan serial IDs.

Inventory in the pack that you count is accumulated by item/lot.

The inventory data is display only when the pack you count is an assembly pack.

You can edit inventory data when the pack counted is a unit pack and not picked for a sales order. You can specify different item, lot, reference, or quantity when there is a difference between physical data and system data.

Fig. 4.43
Pack Tag Count Entry (3.16.3.3)



Counted By. Enter a valid user ID as the person who counted the pack. The system displays the logged-in user as the default. This field is for reference only and may appear on some reports. You can leave this field blank.

Date Counted. Enter the date of the count. It can be the date the tag was counted, or the date the count was entered into the system The default is the system date.

Recounted By. Enter a valid user ID as the person who recounted the pack tags.

Date Recounted. Enter the date of the recount. This field and the Recounted By field are disabled until a recount occurs.

Serial ID. Enter or scan the serial ID of the counted pack.

Remarks. Optionally, enter remarks associated with this tag. Reference only.

Tag Number. The system retrieves the tag number associated with the serial ID once you scan or enter the serial ID. This field is editable only when you enter unexpected packs or item tags.

Item Number. The system displays the item number for the inventory.

Lot/Serial. The system displays the lot or serial ID for the inventory.

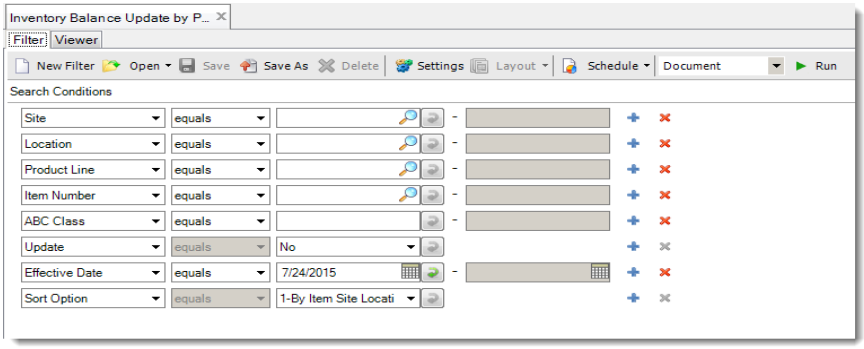
Reference. The system displays any associated reference data for the inventory.

Qty Counted. The system displays the quantity counted.

Inventory Balance Update by Pack

Use Inventory Balance Update by Pack to reflect the inventory you count by serialized packs at a given site and locations. Use search operators to specify criteria before updating, and then click Run.

Fig. 4.44.
Inventory Balance Update by Pack



In the report, the system displays pack data and loose serialized items for the item, location, or lot.

Note As long as there are pack tags created for the selected location, the system ignores the item number, product line, and ABC class that are entered as criteria. The system updates inventory balance based on location. And the results in the report are sorted by Site, Location, Item, and Lot/Serial only.

When there are problems required to be fixed manually, the Manual Intervention section is displayed based on location. You can set Update in the criteria to No to print changes for preview. After all the issues requiring manual intervention are fixed, you can set Update to Yes to update the inventory balance.

The system displays the Total Variance as the sum of the QOH variance in inventory both in and not in the pack.

Not in Pack: The system displays the balance of loose items of the item, site, location, lot, reference, quantity counted or frozen, and the QOH variance. The quantity counted shows the count quantity on the related item tag, while the freeze quantity shows frozen inventory of items not in a serialized pack. The QOH variance is the difference between the quantities counted and frozen.

In Pack: The system displays the same type of inventory as that for inventory in the pack. When there are pack problems, the system corrects them automatically during update. The system displays the serial ID, pack code, master pack stage, quantity counted and in the pack, QOH variance, and the cause of the problem. When the cause is a mismatched location or item, you can print the original site, location, or item number that is mismatched. When the cause is due to inventory shipped, you can print the shipper ID. The quantity counted shows the counting data for the pack, while the pack quantity shows the quantity in this pack in the system. The QOH variance is difference between the quantity counted and the quantity in the pack.

For items in the serialized pack, the system adds or subtracts the difference between current QOH and the counted amount. The loose, non-serialized item that uses the item tag still uses the original logic where the system compares the frozen quantity with the counted quantity.

Manual Intervention

When you run the update for the inventory balance, the system prints a report. When there are issues with the inventory, the system prints a Manual Intervention section that lists inventory issues. You are required to fix these issues manually.

The system uses the same mechanism to update inventory balances or suggest that user should manually fix the issue as in Cycle Counting, except when:

- A pre-created pack tag is not counted. The system does not update inventory for the pre-created pack. You are required to manually set the pack count quantity to zero using Uncounted Pack Tag Report/Update.
- You open a master pack and count its content, but not all of the lower-level packs are counted. The system dismisses the uncounted lower-level packs.
- You void a pack tag. The system uncounts the related pack.
- For the inventory contained in a serialized pack, the system compares the count quantity with the current quantity in the pack, and updates the variance between them. But for loose non-serialized items, the system compares the count quantity on the item tag with the freeze quantity, and updates the variance.

Fig. 4.45
Report with Manual Intervention Section

```
piibup.p 3+                                        3.16.21 Inventory Balance Update
Page:    1                                                  10USA
                                                      S I M U L A T I O N

Site     Location Item Number        Lot/Serial         Reference Total Variance
-------- -------- ------------------ ------------------ --------- --------------
yalsite  10       yal-FG             123                                    0.00

   Inventory in Pack:
                                                                Mstr Pkg
   Serial ID                                Pack Code           Stage    Qty Counted Qty in Pack QOH Variance Cause
   ---------------------------------------- ------------------ -------- ----------- ----------- ----------- ------------------
   PL1001                                   Pallet              Active           5.0         5.0         0.0

Site     Location Item Number        Lot/Serial         Reference Total Variance
-------- -------- ------------------ ------------------ --------- -------------
yalsite  10       yal-FG             456                                   45.0

   Inventory not in Pack:
   Qty Counted  Freeze Qty  QOH Variance UM
   ----------- ------------ ------------ --
         i.   10.0          5.0          5.0 EA

   Inventory in Pack:
                                                                Mstr Pkg
   Serial ID                                Pack Code           Stage    Qty Counted Qty in Pack  QOH Variance Cause
   ---------------------------------------- ------------------ -------- ----------- -----------  ----------- ------------------
   PL1001                                   Pallet              Active           5.0          5.0          0.0
   PL1002                                   Pallet              Inv-adj          5.0          0.0          5.0 Written off
   PL1003                                   Pallet              Active          20.0          0.0         20.0 Location Mismatch
                                                                                                 From Site: 10-100 From Loc:20
   PL1004                                   Pallet              Consumed        20.0          0.0         20.0 Shipped
                                                                                                 Shipper ID: Shipper01
   PL1005                                   Pallet              Active           0.0          5.0         -5.0 Missing


Manual Intervention for Site: yalsite Location: 10
Serial ID                                Pack Code           Stage    Qty Counted Cause
---------------------------------------- ------------------ -------- ----------- ------------------
PL1006                                                                          Not exist
CA3001                                   Box                 Aggregated      5.0 Item Mismatch     Item in system: 1-bb
CA4001                                                                          Invalid Stage
PL1007                                                       Picked             Picked Missing
```

Manual intervention section of report.

Physical Inventory Counting Result Browse Collection

Use the .NET UI Physical Inventory Counting Result Browse Collection to view physical counting results. The browse collection provides:

- Summary information for site and location
- Detailed counting results
- Uncounted tags
- Inventory variance
- Serial transactions since the tag count

The supporting Physical Counting Result Summary Browse lists summary counting data for each location. You can filter by site and location to view the counting result. You can also launch the Uncounted Pack Tag Report/Update to set the quantity of uncounted tags to zero.

The browse collection includes these additional browses:

- Counted Tag Browse

  All serial IDs counted and loose items counted for the selected location are listed. The missing packs (both the missing master pack and missing content) are listed after the user sets quantity of uncounted packs to zero.

- Uncounted Tag Browse

  Displays all of the uncounted tags of the selected location.

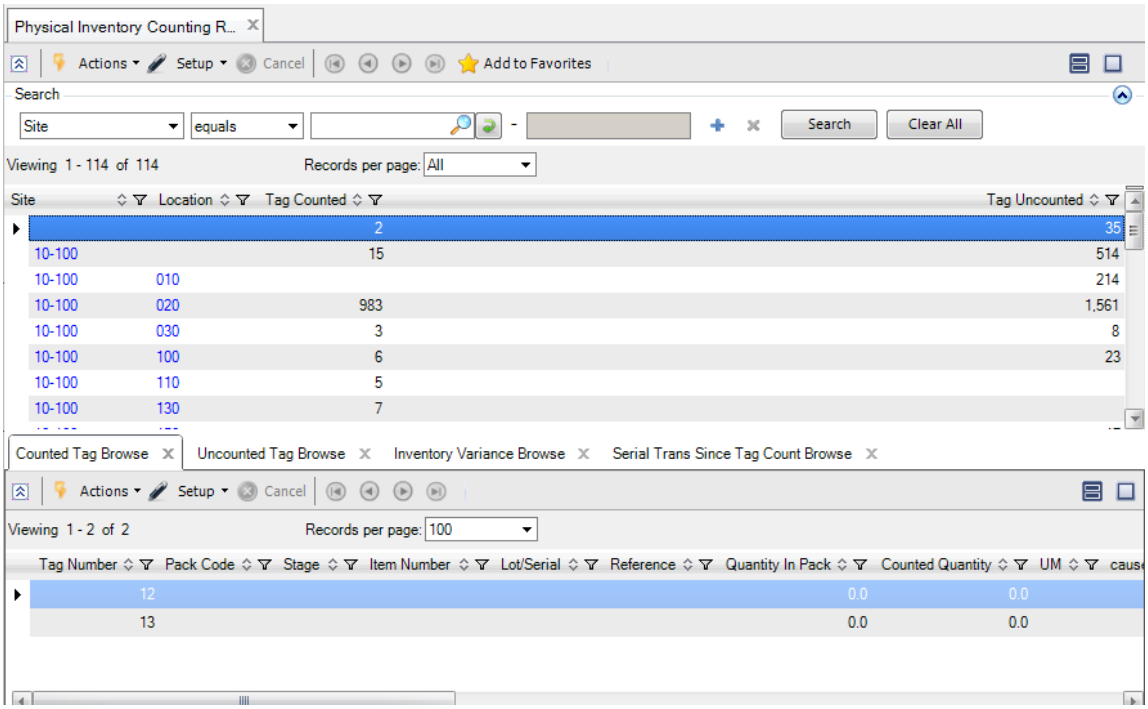
- Inventory Variance Browse

  Displays the variance data between counted quantity and quantity on hand for each item/lot/ref.

- Serial Trans Since Tag Count Browse

  Displays the serial transactions that happened after the user started to count the tags of the selected location. Only lists those linked with inventory transactions.

Fig. 4.46
Physical Inventory Counting Result Browse Collection



Uncounted Tag Report/Update

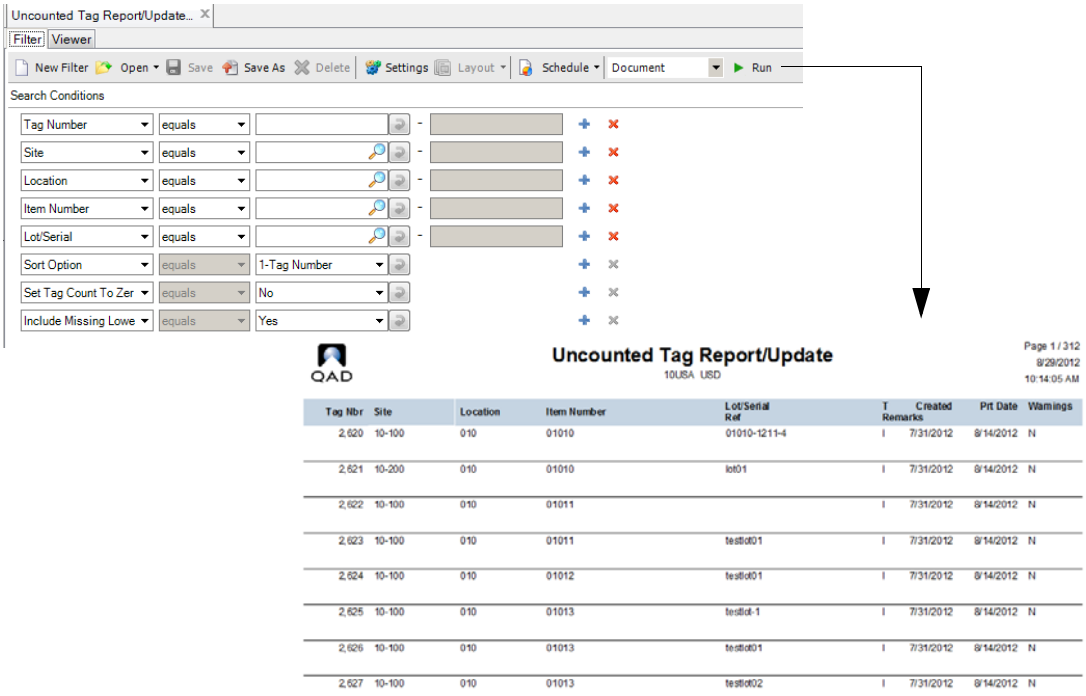
Use the .NET UI Uncounted Tag Report/Update to view uncounted tags and set uncounted packs as missing. You can use search filters and operators to specify the contents to report.

The Include Missing Lower Level Pack filter controls whether the system displays missing content of counted packs in the results. Missing content of the counted pack displays at the end of the report when you set the filter to Include Missing Uncounted Lower Packs to Yes.

The system displays the serial ID when the tag is for a pack; the items contained in the pack display, too. When multiple items are contained, the system displays multiple lines with the same tag number and serial ID.

The system sets the count quantity of uncounted packs and uncounted lower-level packs to zero (0) when you set the Set Tag Count To Zero filter to Yes. The system generates serial history and marks the packs as missing. The system dismisses them when you run an inventory balance update.

Fig. 4.47
Uncounted Tag Report/Update



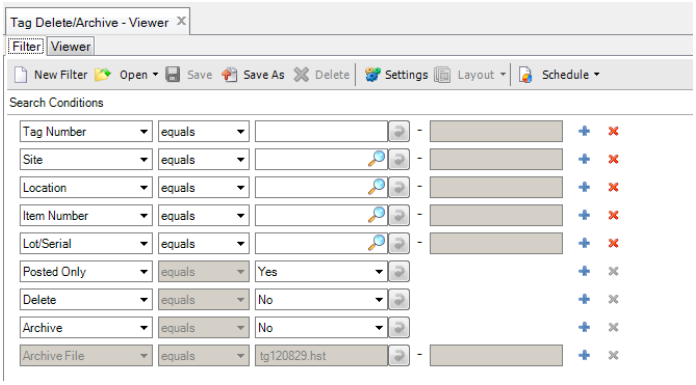
Tag Delete/Archive

The .NET UI Tag Delete/Archive (3.16.23) feature lets you delete and archive selected tags. You can use this feature to delete and archive pack tags, too. When you do, the system deletes or archives related serial history (TAG-CNT) linked with the tag; however, the records associated with inventory update are not affected.

When there are pack tags created for the selected location, the system ignores the item number or lot/serial that is entered as selection criteria. You can only filter pack tags by the Tag Number or Site/Location filters. See Figure 4.48 on page 143.

In the report, when the tag is for a pack, the system displays serial IDs instead of item numbers, lot/serial, or references.

Fig. 4.48
Tag Delete/Archive



Scrap Inventory

Use Inventory Scrap by Pack (3.17.12) to scrap inventory by pack. You can identify the packs to be scrapped, and scrap full packs or part of a pack. You can also scrap non-serialized loose items with this function.

Navigation

This program contains several frames.

In the first frame, specify the serial ID to be scrapped. The pack or item serial that you enter must be active or aggregated on an active master pack. You can remove a pack at any level. If the serial ID is aggregated, the system prompts you to remove it from its parent. For information on valid serial ID entries, refer to the field descriptions following the Inventory Scrap by Pack graphic.

Specify the scrap quantity and a reason for the scrap in the Inventory Data frame. The Item Number, Site, Location, Lot/Serial, and Reference fields are enabled only when you leave Serial ID blank.

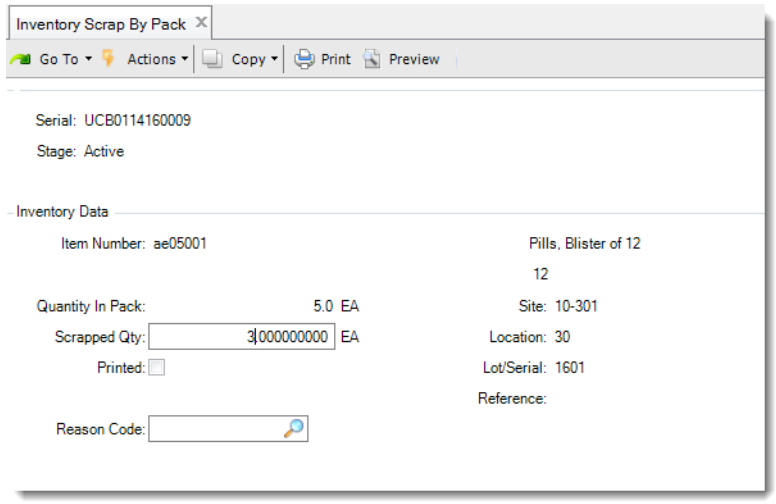
Specify additional data for the transaction in the last frame.

Note For Debit Account and Credit Account, only authorized users can update the two fields. Authorized users are defined in Generalized Codes.

The system prompts you to confirm that the information is correct, and when Yes, the system scraps the items.

For all packs, when the system scraps all content, it changes the stage to Decommed. For all serialized items, the system changes the stage to Consumed, but maintains the item, lot/serial, and reference.

Fig. 4.49
Inventory Scrap by Pack (3.17.12)



Serial ID. Enter a serial ID for one of the following:

Assembly Pack: When you enter an assembly pack serial ID, the system scraps the whole pack. When it is aggregated on an active master pack, the system removes the pack automatically. When multiple items are included in the pack, the system scraps all items.

Unit Pack: When the unit pack only contains non-serialized items of a single item number, lot, and reference, you are required to enter a scrap quantity in the Inventory Data frame. You can scrap part of the unit pack or the whole pack. In other scenarios, the system scraps the whole unit pack.

Item Serial ID: When you enter an item serial ID, the system scraps the specified item. When it is aggregated on an active master pack, the system removes the item automatically.

Blank: When this field is blank, you can enter non-serialized loose items to scrap. The system displays the Inventory Data frame to enter item number, scrap quantity, site, location, lot/serial, and reference.

Scrap Quantity. Enter the quantity to scrap. This field is editable for unit packs that only contain non-serialized items of a single combination of item, lot, and reference. The default is the pack quantity.

Reason Code. Enter the reason code used for the scrap transaction. When multiple items or multiple lots are scrapped with this transaction, the system applies the reason code to all items and all lots.

Total Cost. Enter the total cost of scrapped items. When multiple items are scrapped in one transaction, the system displays a summary for all items.

Note For details on Order, Line, Auth Doc, Employee, Effective Date, Debit Account, and Credit Account, see the standard information regarding Inventory Scrap Transaction in *User Guide: Master Data*.

SO Shipping

For SOs (or customer scheduled orders), when packages are shipped to partners outside the company, packs are issued, or decommissioned. The system sets the serial ID staging to consumed, indicating that the serial ID is no longer active and, for ePedigree purposes, that the serial ID has changed owners in the supply chain cycle.

Note Serialization functions for SO shipping do not support customer scheduled orders for kit items.

Note DO shipping is also considered outbound shipping transactions; see “DO Shipping” on page 169.

A typical scenario for shipping is as follows:

1. Goods are picked from the warehouse or shop floor locations and transferred to the shipping dock.
2. Goods require incomplete pallets to be shipped. Cases can be removed from the production pallets, then repacked on a container unit where cases of different items can be aggregated.
3. During the picking and packing, goods are attached to a shipper.

   Note Detail allocation and picking are only supported at the lot or serial level. When staff attach a serialized pack unit to the shipper, specific serial IDs can be picked. When this situation occurs, the system sets the serial stage to picked and serial numbers get linked with the shipper ID.
4. Use Pre-Shipper/Shipper Confirm to confirm the SO pre-shipper/shipper.

   You can view all packs and item Serial IDs for a shipper as well as the SO and line that the serial IDs were shipped against. When you confirm the SO shipper, the hierarchy from the master pack to the item serial ID and the picking information are recorded. You can also view the .NET UI Shipping History browse collection to see the pack hierarchy and picking information for confirmed shippers.

Programs to Use

The following topics describe both QAD EE and Serialization programs that you use when shipping:

1. Create an SO (or customer scheduled order), using QAD EE SO maintenance programs.
2. Book serial IDs for the SO, using SO/RMA Serial Booking.
3. Build a pack for the booked serial IDs, using Pack Build.
4. Transfer goods, using Pack Transfer or Pre-Shipper/Shipper Picking to transfer goods from warehouse to staging area.
5. Create Pre-Shipper/Shipper, using QAD EE Pre-Shipper/Shipper Workbench or Picklist/Pre-Shipper–Automatic.
6. Perform SO or DO picking and packing, using Pre-Shipper/Shipper Picking and Pre-Shipper/Shipper Pack Build.

7 Confirm or unconfirm the pre-shipper/shipper, using a QAD EE program.

8 Load the truck, identifying which master packs staff have loaded into a truck, using the Serialization Truck Load program.

9 Use the Shipping History browse collection to view SO-related shipping data for serialized inventory; see “Tracking and Tracing Shipping Data” on page 204.

SO Shipping Menu Programs

The following topics discuss:

Deleting SO Lines with Associated Serial IDs

You can use any of the following programs to delete an SO or SO line:

- Sales Order Maintenance
- Completed Sales Order Delete
- Pre-Shipper/Shipper Confirm
- Invoice Post and Print

When a sales order line is deleted, the system deletes the booked or new serial IDs linked with the sales order line. If the booked or new serial IDs also link a work order, the system removes the link between the work order and the serial IDs. If they are imported serial IDs, they remain in the import list of serial IDs and the system sets the Used field to No for them. The system also creates serial history records with Type, Begin Quantity, Quantity Change and Stage being PCK-DEL/SER-DEL, Zero, Zero, and Blank respectively.

You cannot delete an SO (or customer scheduled order) line when there are picked serial IDs attached to the line. When you try, the system displays an error message. Also, when there are consumed serial IDs—including serial IDs aggregated on a consumed pack— that are attached to a returned shipper, the system displays an error message when you attempt to delete the shipper sales order line.

You can use the Shipping History browse to view shipping history after you delete sales orders. Once you delete the SO/order line and the shipper, you can still view shipping history data to look up which pack/item was shipped for an SO line and shipper. See “Tracking and Tracing Shipping Data” on page 204.

When you delete an SO or SO line, all quantities ship, and the invoice posts, the system deletes the relationship to the serial ID. Likewise, when you delete all SO lines on the shipper, the system deletes the serial ID relationship to the shipper.

Return Items for Deleted SO

You can still return serialized items once you delete the SO. To do this task, you create another sales order with a negative quantity to return the pack, using the standard EE SO maintenance programs. The system verifies the shipping history to ensure that the serialized pack or item is consumed by the confirmed SO shipper and not yet returned.

When you return serialized items, or unit or assembly packs with a single item, and enter the SO line with a negative quantity, make sure that you specify the same ship-from and ship-to as the deleted SO. You use the same programs for an SO return; that is, use Pre-Shipper/Shipper Picking to pick the consumed serial IDs and Pre-Shipper/Shipper Confirm to confirm the return transaction.

When you return an assembly pack with multiple items, the system displays an error in the SO maintenance program and prompts you to enter each lower-level pack with single item to do the return.

Once you delete the SO, verify that serial data that ships for this sales order is correct in the browses and browse collections:

- Serial Master Browse
- Shipping History Browse
- Inventory Detail by Site Browse
- Pre-Shipper/Shipper Workbench

SO/RMA Serial Booking

Use SO/RMA Serial Booking (7.1.20) to capture serial numbers for use on specific sales orders.

When multiple sales order lines share the Sold-To, Item, and Purchase Order, you can book serial IDs for only one of those sales order lines. This sales order line for which you book serial IDs is called a master sales order line. The system links booked serial IDs only to the master sales order line. Other sales order lines within the group are going to use the serial IDs booked for the master sales order line. You can decide how many serial IDs to book for the master sales order line. When the booked serial IDs are used up, you can book more serial IDs for the master sales order line.

You can then create work order serial range bookings, for example, that come from sales order information. Use Serial Booking by Work Order Report to view serial ID bookings for work orders.

When making serial ID bookings, the system assigns—books a range of numbers to an order—based on the packaging hierarchy you define in the system.

You can set fields in Packaging Structure Maintenance so that the system adds additional serial numbers to cover any scrap of numbers or so that you have a greater range of numbers to select when you have random serial ID assignments. When the system determines the serial ID ranges by the sales order, you can set the predefined margin as a percentage of additional numbers to book in the packaging structure.

Navigation

Enter the SO number and line. The system displays SO data, such as the sold-to, ship-to, item, quantity, and purchase order. Specify whether the system uses individual booking.

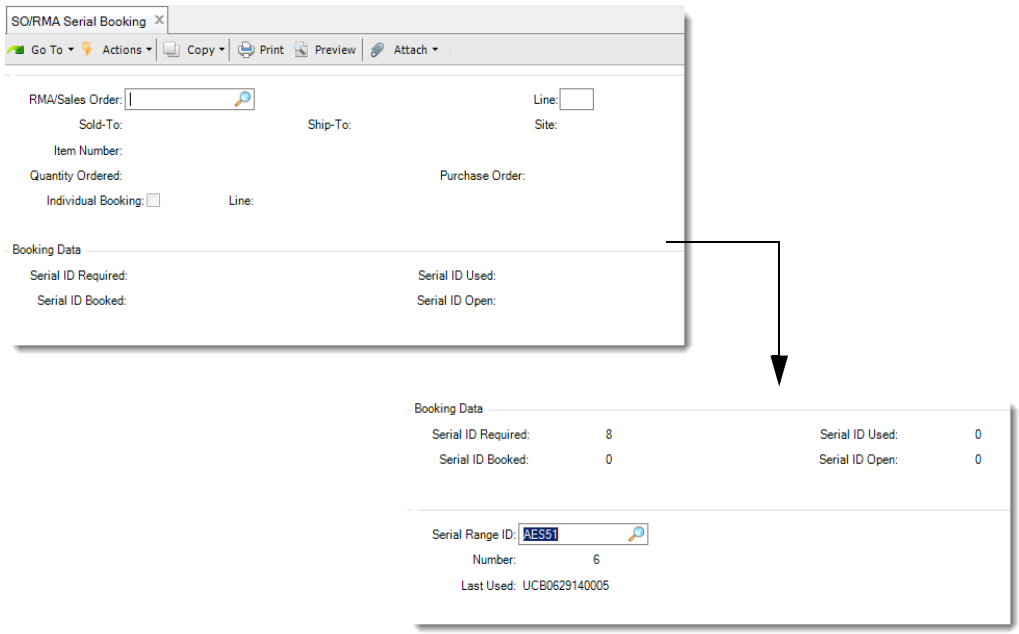
In the Booking Data frame, the system displays serial ID information, including the required and booked serial ID, the serial ID used, and the serial ID open.

If the Individual Booking field is set to Yes, enter the From serial ID and the To serial ID.

If the Individual Booking field is set to No, enter a serial range ID and the number of bookings.

Note If your company employs the QAD Service/Support Management module, you can also use this function to book serial IDs for return material authorizations (RMAs).

Fig. 4.50
SO/RMA Serial Booking (7.1.20)



RMA/Sales Order. Enter the sales order from which the system captures the serial IDs and books (creates) serial IDs.

Line. Enter the specific line from which the system captures the serial IDs and books (creates) serial IDs.

Individual Booking. Specify whether you enter serial IDs manually or by specifying a serial ID range:

Yes: You create serial bookings manually. You are required to specify a From Serial and To Serial range. The system books the IDs for the range.

No: You are required to specify a serial ID range that is predefined in the system. The system books the serial ID automatically using the entered serial range.

Serial Range ID. Accept or specify the serial range ID for which the system creates serial IDs.

Number. Accept or enter the number of serial books to capture for the SO.

From Serial. Enter a valid serial ID as the first serial ID in a range for this site, address, item, and pack code combination.

To Serial. Enter a valid serial ID as the last serial ID in a range for this site, address, item, and pack code combination.

Pre-Shipper/Shipper Picking

You can use Pre-Shipper/Shipper Picking (7.8.1) to pick serial IDs for a pre-shipper/shipper and link them with specific SO lines or customer scheduled order lines.

Note Serialized items cannot be shipped to customers as consignment. So you cannot pick a pack that holds serialized items or a loose serialized item for a consigned SO or customer scheduled order line.

Navigation

This program contains several frames.

In the Pre-Shipper/Shipper frame, enter the SO pre-shipper/shipper information. If you have not already created a pre-shipper or shipper, leave the Number field blank to let the system automatically generate an SO pre-shipper or shipper.

If you want to merge the current pre-shipper or shipper with another pre-shipper or shipper, select the Merge Other Pre-Shippers field. Then, in the displayed Merge Pre-Shipper field, enter the pre-shipper or shipper ID with which to merge. The system merges the pre-shippers and displays a message that a picklist has been added to the merged pre-shipper. After you finish merging, click Back to display the Serial frame. If you do not want to do merging, do not select the Merge Other Pre-Shippers field. Click Next.

In the Serial frame, specify the serial IDs to pick for the current pre-shipper/shipper.

To pick an active assembly pack that contains single items, enter the serial ID of the assembly pack in the Serial ID field.

- If the assembly pack does not contain items at the lower level, the system displays the stage, item number, quantity available, site, location, lot/serial, and reference of the item. The displayed data is from the serial ID you enter. In the SO Line frame, you enter the SO or customer scheduled order number and line. Then the whole assembly pack is picked.
- If the assembly pack contains items at the lower level, you have two options. You can directly pick the whole assembly pack, or you can pick the assembly pack part by part. If you directly pick the whole assembly pack, this pack can only be picked for a single SO line.
  - To directly pick the whole assembly pack, leave the Item Number, Lot/Serial, and Reference fields blank and click Next. Then, in the SO Line frame, enter a single SO and line number.
  - To pick the assembly pack part by part, first pick the lower-level items. Enter the item number, lot, and reference data to indicate which inventory you are picking. Then, in the SO Line frame, enter SO line and quantity to pick information. The system prompts you to enter SO lines until all the quantity of the same combination of item, lot, reference is assigned. Then enter the serial IDs of other lower-level packs to pick the packs one by one. Finish picking all the other lower-level packs or items. Otherwise, when you click Back,

you are prompted to remove those unpicked packs or items from the master pack. If you answer No, the system prompts you to remove the master pack from the pre-shipper or shipper.

To pick an active assembly pack that contains multiple items, you cannot directly enter the serial ID of the assembly pack in the Serial ID field. Instead, enter the serial IDs of lower-level packs to pick the lower-level packs one by one. If there are items at the lower level, enter the inventory information of the items to pick them. After entering the serial ID of a lower-level pack, answer No when prompted to remove it, and then enter data in the SO Line frame to pick the lower-level pack. In the Sales Order Line frame, you accept or enter the SO or customer scheduled order number and line. For unit packs, you are required to specify the quantity to pick. The system displays the item number and PO. The system prompts you to continue entering multiple SO lines until the Qty in Pack is all assigned to the SO lines. If the lower-level pack is a unit pack and contains multiple items or lots, after entering the pack serial ID, enter the inventory information to indicate which inventory you are picking. This function does not support the scenario where a lower-level pack is an assembly pack and contains multiple items.

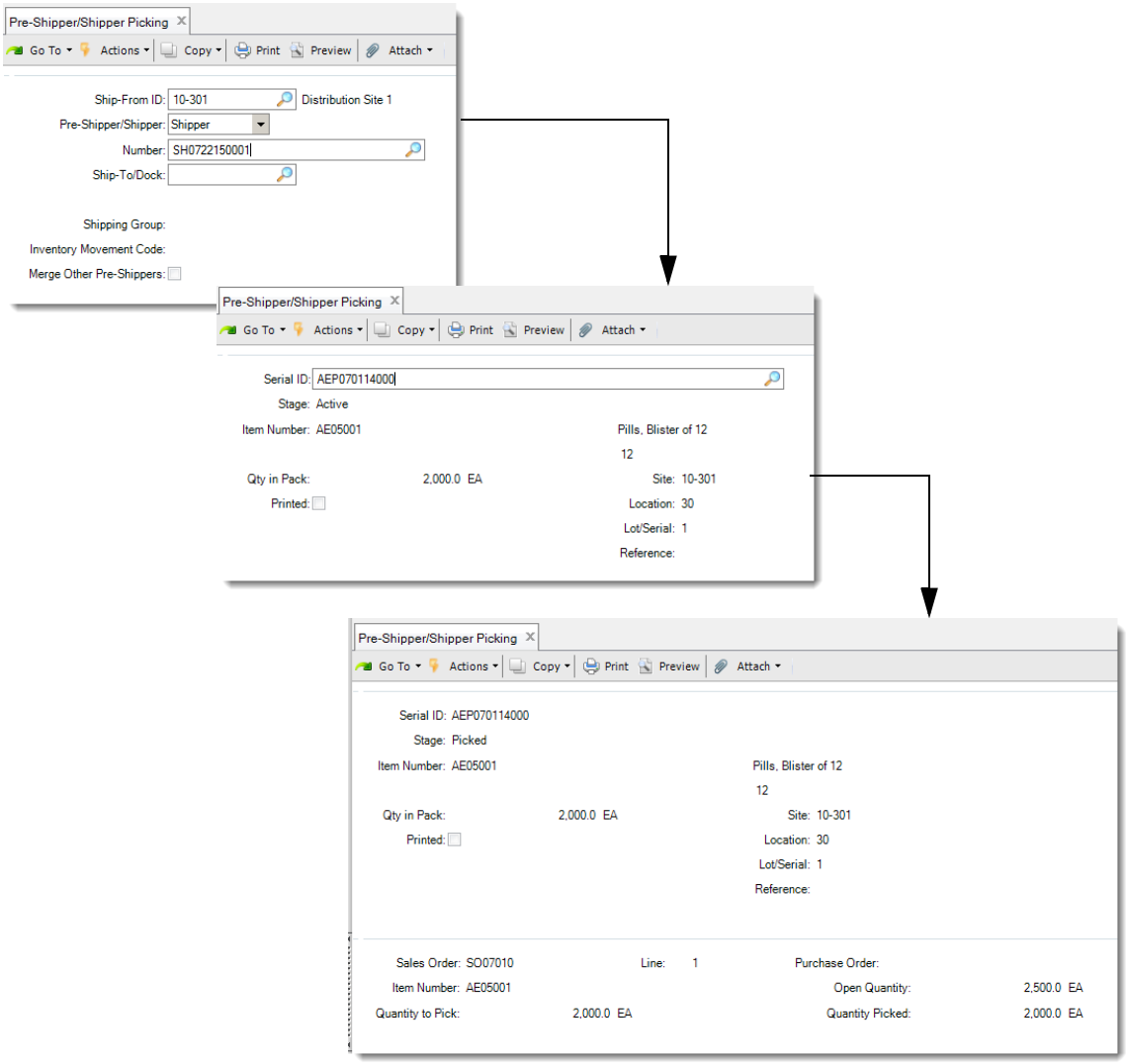
To pick an active unit pack, enter the serial ID of the unit pack in the Serial ID field.

- If the unit pack contains items of a single item number, lot and reference, the system displays inventory information. Enter the SO line and quantity to pick information to pick the unit pack. The system prompts you to continue entering SO lines until all the quantity in pack is assigned to the SO lines.
- If the unit pack contains single items with multiple lots or references, you have two options. One is to directly pick the whole unit pack for a single SO line. The other is to select specific inventory to pick for different SO lines.
  - To directly pick the whole unit pack, leave the Item Number, Lot/Serial, and Reference fields blank. Then enter a single SO line to pick the whole unit pack.
  - To select specific inventory to pick, enter inventory information to indicate which inventory you are picking. Then enter the SO line and quantity to pick information to pick the specified inventory. The system prompts you to enter SO lines until all the quantity of the specified inventory in the unit pack is assigned. Finish picking all the other inventory in the unit pack. Otherwise, when you click Back, you are prompted to remove the unpicked inventory from the unit pack. If you answer No, the system prompts you to remove the unit pack from the pre-shipper or shipper.
- If the unit pack contains multiple items, you are required to select the specific inventory to pick. Enter inventory information to indicate which inventory you are picking. Then in the SO Line frame, enter the SO line and quantity to pick data. The system prompts you to enter SO lines until all the quantity of the specified inventory in the unit pack is assigned. Finish picking all the other inventory in the unit pack. Otherwise, when you click Back, you are prompted to remove the unpicked inventory from the unit pack. If you answer No, the system prompts you to remove the unit pack from the pre-shipper or shipper.

You can also pick loose serialized items using this function. In the Serial ID field, enter an active item serial ID and then enter SO line information to pick the serialized item.

When you finish the SO Line frame, click Back to display the Destination frame and enter the staging area. To pick serial IDs without transferring packs to the staging area, leave all fields blank.

Fig. 4.51
Pre-Shipper/Shipper Picking (7.8.1)



Ship-from ID. Enter the site from which the serial IDs are shipped.

Pre-Shipper/Shipper. Enter either shipper or pre-shipper. The default is pre-shipper. The value you enter determines whether you pick serial IDs for a pre-shipper or a shipper.

Number. Enter the number of the pre-shipper or shipper, or leave it blank to let the system generate an SO pre-shipper or shipper.

Note Do not enter a pre-shipper or shipper that links with an open task in Warehousing. Otherwise, the system displays an error message.

Ship-To/Dock. This field is display only when you enter the pre-shipper/shipper number and shows the ship-to address to which this pre-shipper/shipper is to be delivered.

If you leave the Number field blank, you are required to enter the ship-to or dock address code to which this shipper is to be delivered.

Shipping Group. This field is display only. The system searches for a shipping group based on the Ship-From and Ship-To/Dock address combination.

Inventory Movement Code. Enter an inventory movement code for this shipment. Inventory movement codes determine the default Number Range Management (NRM) sequences, carriers, and document formats. If specified, the system verifies that the code exists in the inventory movement detail record for the shipping group. If no shipping group is available for the Ship-From and Ship-To/Dock address combination, leave this field blank.

You are required to have access to this inventory movement code, defined in Inventory Movement Code Security.

Merge Other Pre-Shippers. Indicate Yes to merge a pre-shipper with this pre-shipper/shipper. When Yes, the system prompts you to enter the pre-shipper number to merge with this pre-shipper/shipper.

Merge Pre-Shipper. Enter the pre-shippers you want to merge with the pre-shipper/shipper. You can enter more than one pre-shipper. The cursor remains on the field until you press F4.

When you enter a pre-shipper or shipper with different values in the header fields of the pre-shippers to merge, the system displays a warning and prompts you to continue. Once you specify Yes, the system merges the pre-shippers and displays a message that a picklist has been added to the merged pre-shipper.

Serial. Enter a valid serial ID to pick for the pre-shipper/shipper. Item serial ID, unit pack, and assembly pack are all supported. If the entered serial ID is aggregated on an active pack, the system prompts you to remove the pack from its master pack automatically. If you enter a serial ID that is picked for the current pre-shipper/shipper, it means that you want to unpick it. Do not enter a serial ID that is picked for another pre-shipper/shipper.

Sales Order/Line. Enter the sales order and line for which you pick the serial ID. The SO or customer scheduled order and line default based on the following logic:

- When the serial ID is linked with a sales order line, the system validates that the sales order line has the same ship-from and ship-to as the pre-shipper/shipper. If yes, the system defaults the SO and line number.
- When serial ID is linked with a master sales order line and the sales order line has different ship-from or ship-to than the pre-shipper/shipper, the system locates other sales order lines that have the same sold-to, PO, and item as the master sales order line. When a match exists in ship-from and ship-to with the pre-shipper/shipper, the system defaults the matching SO and line number.
- When the pre-shipper/shipper has pending pick items, the system locates a sales order line in the pending pick list and defaults the SO and line number.

Qty to Pick. Enter the number of items in the serial ID to pick for the SO and line. The value defaults from the Qty in Pack of the entered serial ID. When you enter a serial ID that is an assembly pack, the system calculates the quantity of the inventory items and defaults the value here.

Transfer To Site. Enter the destination site to which the packs move. The value defaults from the ship-from of the pre-shipper/shipper.

Location. Enter the destination location to which the packs move.

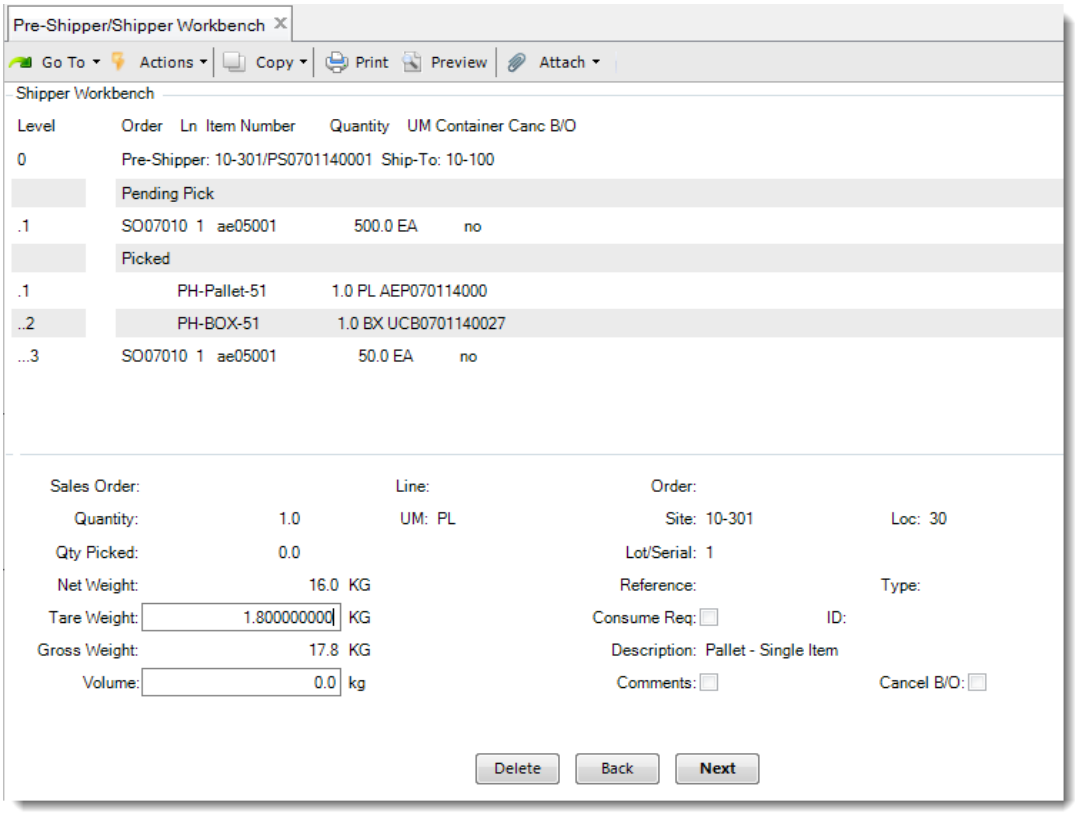
Note If the specified pack is associated with an open task in Warehousing, the system does not transfer it to the specified location.

Effective Date. Enter the GL effective date for the transfer transaction. This value defaults from the system date.

Remarks. Optionally, enter brief remarks associated with this transfer transaction.

After SO picking, if you go to Pre-Shipper/Shipper Workbench, you can see that the Shipper Workbench frame includes two sections: Pending Pick and Picked.

Fig. 4.52
Pre-Shipper/Shipper Workbench-Shipper Workbench Frame



The Pending Picked section displays information in the same way that the Shipper Workbench frame does before SO picking.

The Picked section displays all picked pack serial IDs and loose serialized items.

- The levels follow the serial hierarchy. Because pre-shipper/shipper is Level 0, master pack is Level 1 and all aggregated serial IDs are under their parent levels.
- For Order and Line, only when the level is item level, the system displays the order and line associated with it for the pre-shipper or shipper.
- For Item Number,
  - If the level is pack level, the system displays the pack code.
  - If the level is item level, the system displays the item number.
- For Quantity and UM,
  - If the level is pack level, the system displays the quantity and the Unit of Measure of the pack at this level.

- If the level is item level, the system displays the quantity and the Unit of Measure of the items picked for the sales order line.

- For Container,
  - If the level is pack level, the system displays the pack serial ID.
  - If the level is item level, blank is displayed.

If you select the pack level, note the following fields:

Quantity. The system displays the pack quantity of this level.

UM. The system displays the Unit of Measure of this level.

Description. The system displays the pack code description of this level.

Note When the pre-shipper or shipper has picked packs, in the trailer of Pre-Shipper/Shipper Workbench, you cannot set the Status field to X: Canceled.

Weight Calculation in Pre-Shipper/Shipper Workbench

- Before SO picking,
  - For the shipper level, without considering manual changes:
    - Net Weight = item net weight * shipper quantity
    - Gross Weight = item ship weight * shipper quantity
    - Tare Weight = Gross Weight – Net Weight

    Only the Gross Weight field is editable, and after you change the gross weight, the system adjusts the tare weight and even the net weight.
  - For the item level, without considering manual changes:
    - Net Weight = item net weight * shipper quantity
    - Gross Weight = item ship weight * shipper quantity
    - Tare Weight = Gross Weight – Net Weight

    Both Net Weight and Tare Weight are editable. After you change the net weight or the tare weight, the system adjusts the gross weight from the item level up to the shipper level.
- After SO picking,
  - For the pending pick lines, the system calculates and displays the weights in the same way as it does before SO picking.
  - For the pack level in the Picked section, without considering manual changes:
    - Net Weight = item net weight * item quantity in pack
    - Tare Weight = sum of the tare weight of all included packs
    - Gross Weight = Net Weight + Tare Weight

    Only the Tare Weight field is editable. You can change the tare weight, and the system automatically adjusts the gross weight displayed.
  - For the item level in the Picked section, without the consideration of manual changes:
    - Net Weight = item net weight * Quantity
    - Tare Weight = Zero
    - Gross Weight = Net Weight

Only the net weight is editable, and the system adjusts the gross weight after you change the net weight.

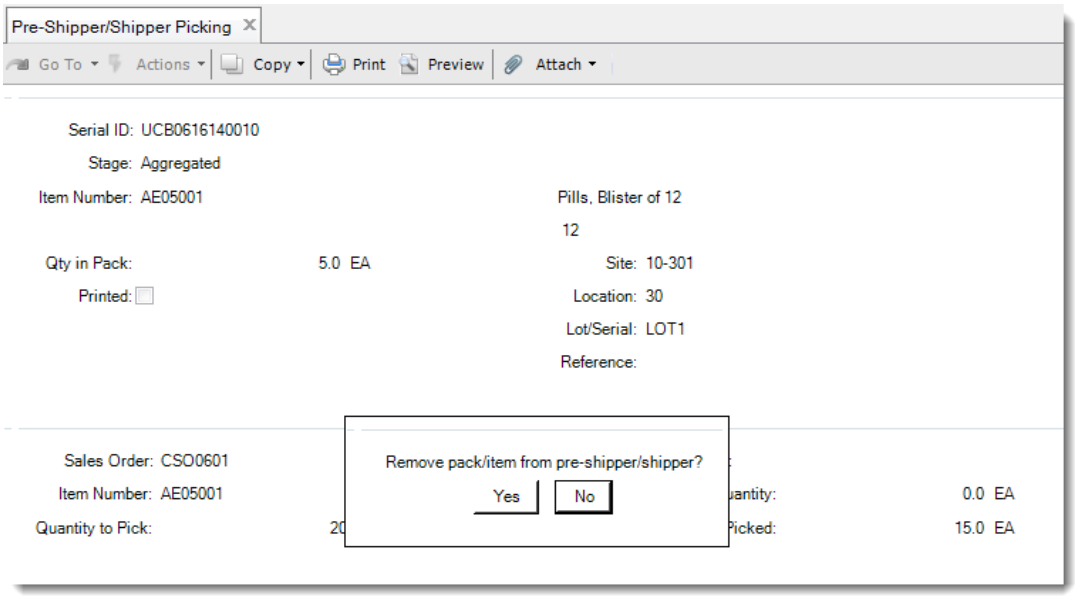
- For the pre-shipper/shipper level, without considering manual changes:
  - Net Weight = item net weight * shipper quantity
  - Tare Weight = (item ship weight – item net weight) * pending pick quantity + sum of tare weight of all picked packs
  - Gross Weight = Net Weight + Tare Weight

  Only the gross weight is editable. If you change the gross weight, the system updates other weights.

Unpicking Serialized Packs or Items

You can also use Pre-Shipper/Shipper Picking to unpick a serialized pack or item from a pre-shipper or shipper. In the Serial ID field, enter the aggregated or picked serial ID and click Yes when prompted to remove pack/item from pre-shipper/shipper. The system reactivates the specified pack or item.

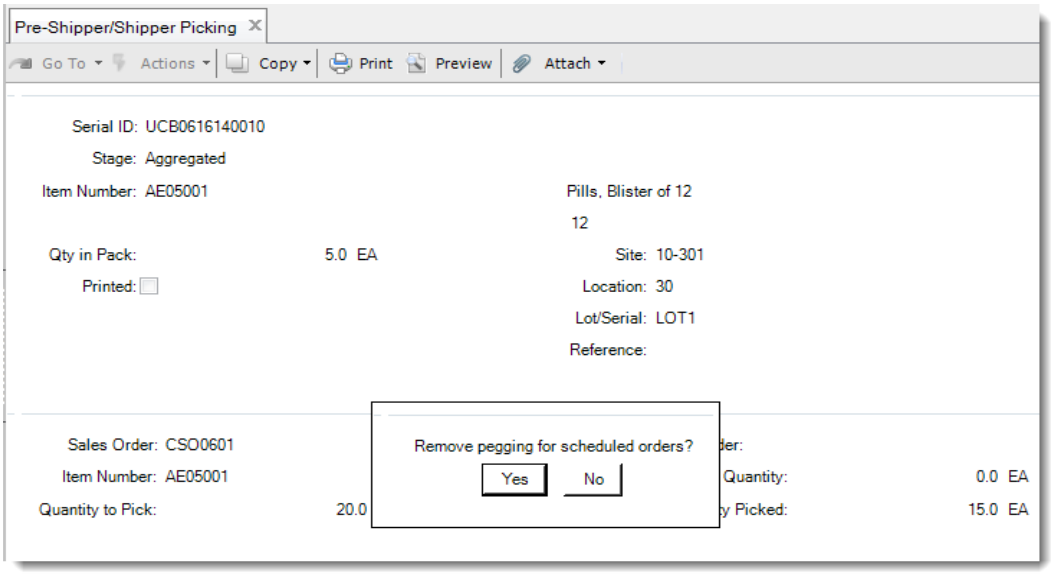
Fig. 4.53
Pre-Shipper/Shipper Picking-Unpick



If this pack or item has a pegged quantity, the system prompts you to remove pegging for scheduled orders. If this pack or item is pegged to a CUM-type order and Automatic Cum Pegging is set to No in Customer Schedules Control,

- When you select Yes, the system returns the pegged quantity of the unpicked pack or item to the open quantity of the schedule requirement.
- When you select No, the system returns the pegged quantity of the unpicked pack or item to the generated pending pick line.

Fig. 4.54
Pre-Shipper/Shipper Picking-Unpick



Note When picked packs exist for the pre-shipper or shipper, you cannot change the Ship-To value for the pre-shipper or shipper in the following programs:

- Pre-Shipper/Shipper Workbench
- Pre-Shipper/Shipper Picking
- Pre-Shipper/Shipper Pack Build
- Move Pack between (Pre-)Shippers

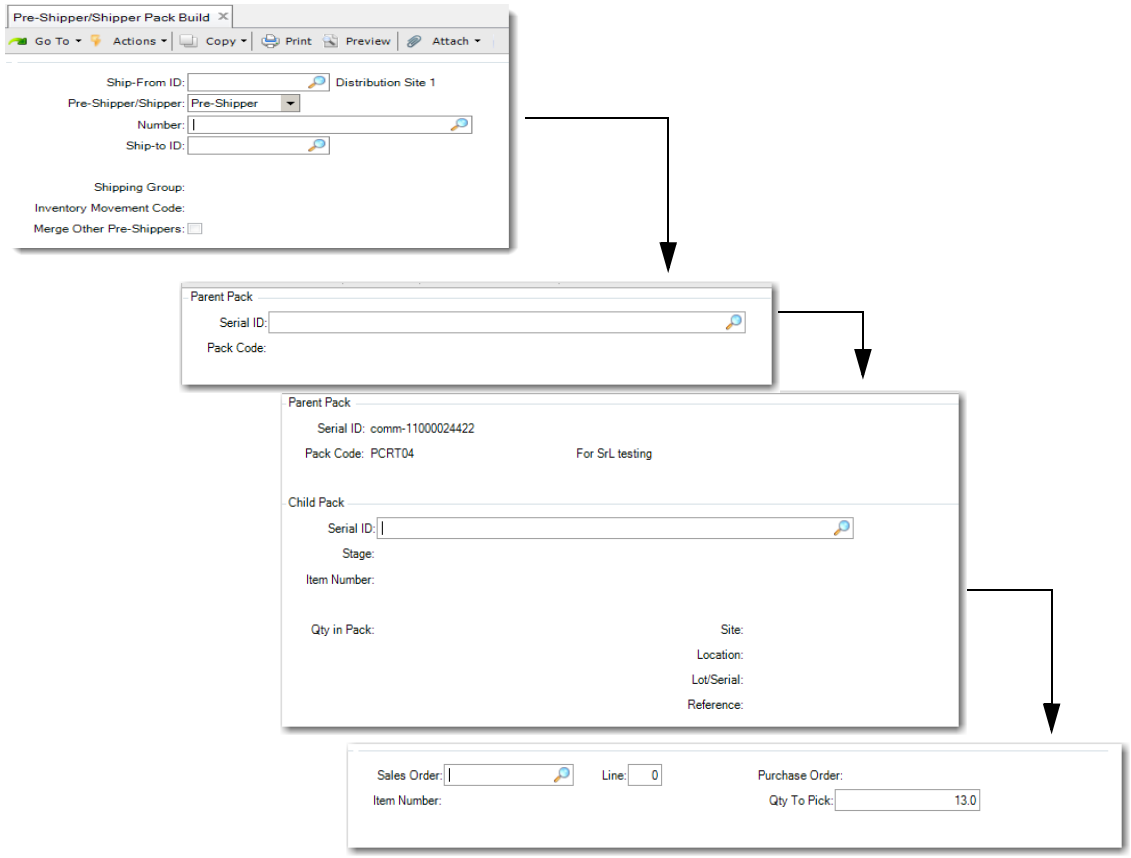
Pre-Shipper/Shipper Pack Build

Use Pre-Shipper/Shipper Pack Build (7.8.2) to pack SO or customer scheduled order goods based on the exact demand of a specific pre-shipper/shipper. You can:

- Package picked packs or inventory into a parent pack.
- Build active packs or inventory into picked packs on the current pre-shipper/shipper.
- Directly pick the packs or items from the inventory for the current pre-shipper/shipper.

Note Kit items are not supported; however, you can pick kit components using Pre-Shipper/Shipper Picking.

Fig. 4.55
Pre-Shipper/Shipper Pack Build (7.8.2)



Ship-From ID. Enter the site from which the serial IDs are shipped.

Pre-Shipper/Shipper. Select Pre-Shipper or Shipper.

Number. Enter the number of the pre-shipper or shipper. If you have not created a pre-shipper or shipper, leave the Number field blank to let the system automatically generate a pre-shipper or shipper.

Note Do not enter a pre-shipper or shipper that links with an open task in Warehousing. Otherwise, the system displays an error message.

Ship-To/Dock. When you have entered a pre-shipper or shipper number, this field is display only and indicates the ship-to address. When you leave the Number field blank, enter a ship-to address.

Shipping Group. This field is display only. The system searches for a shipping group based on the Ship-From and Ship-To/Dock address combination.

Inventory Movement Code. Enter an inventory movement code for this shipment. Inventory movement codes determine the default Number Range Management (NRM) sequences, carriers, and document formats. If specified, the system verifies that the code exists in the inventory movement detail record for the shipping group. If no shipping group is available for the Ship-From and Ship-To/Dock address combination, leave this field blank.

You are required to have access to this inventory movement code, defined in Inventory Movement Code Security.

Merge other Pre-Shippers. Specify Yes to merge a pre-shipper with this pre-shipper/shipper. When Yes, the system prompts you to enter the pre-shipper number to merge with this pre-shipper/shipper.

Merge Pre-Shipper. When Merge other Pre-Shippers is Yes, this field is displayed. It identifies the pre-shipper to merge with the pre-shipper/shipper.

Serial ID. Enter a valid serial ID as the parent pack. Or leave this field blank.

Pack Code. This field indicates the pack code of the serial ID. When enabled, enter the pack code of the serial ID.

Serial ID. When enabled, enter a valid serial ID to build into or remove from the parent pack. When the parent serial ID is booked for a sales order line, make sure that this serial ID is booked for the same master sales order line.

Sales Order/Line. Enter the SO line or customer scheduled order line for which the serial ID is picked. SO or customer scheduled order and Line default in the following way:

When you previously picked for the pre-shipper or shipper for the entered serial ID, the system displays the sales order line specified during picking.

When the serial ID is linked with a sales order line, the system validates that the sales order line has the same ship-from and ship-to as the pre-shipper/shipper. When yes, it defaults the SO, customer scheduled order, or DO and line.

When the serial ID is linked with a master SO, customer scheduled order, or DO line and the order line has different pre-shipper/shipper ship-from or ship-to, the system locates other order lines that have the same sold-to, PO, and item as the master SO line. If one of them matches, the pre-shipper/shipper ship-from and ship-defaults from the matching order and line.

If the pre-shipper/shipper has pending pick items, the system locates an order line in the pending pick list, based on the item number you set up in Serialization functions, and defaults the order and line.

Quantity To Pick. Enter the number of items to pick for the entered SO line.

When you pick the first pack, the system moves the quantity picked in allocation detail to the quantity allocated when it is not 0 (zero). As you continue to pick the pack, the system uses the existing logic to move the allocated quantity to the quantity picked.

When picking has not happened, the system defaults from the pack quantity of the entered serial ID. When the entered serial ID is an assembly pack, the system calculates the quantity of the inventory items and defaults the value in this field; you cannot change the value.

Packaging Picked Packs or Inventory into a Parent Pack

You can use Pre-Shipper/Shipper Pack Build to package picked packs or inventory into a parent pack. The parent pack can be new, or already picked for the current pre-shipper or shipper. The parent pack can be an assembly pack or a unit pack.

In the Parent Pack frame, specify information of the parent pack.

If you want to generate a new pack, you can do any of the following:

- Enter a serial ID with stage set as New
- Enter a serial ID with stage set as Booked for a master sales order line

- Enter a nonexistent serial ID
- Leave Serial ID blank

When you enter a Booked or nonexistent serial ID, or leave the Serial ID field blank, you are required to enter a pack code in the Pack Code field. If you enter a nonexistent serial ID, the system validates it by the number range determined by site (Ship-From), address (Ship-To), transaction type, item, and pack code. If you enter a Booked serial ID, make sure that it is linked with the same master SO line as the child packs you want to build into it. Also make sure that the related master SO line of the booked serial ID has matching ship-from/site and ship-to address codes with the current pre-shipper or shipper.

If you enter a Picked pack serial ID, specify No when prompted to remove it from the pre-shipper or shipper.

In the Child Pack frame, enter the serial ID of a picked pack or item to build into the parent. Or, leave the Serial ID field blank and enter inventory information to pack picked loose inventory into the parent. The picked pack can be an assembly pack or a unit pack, regardless of the parent serial ID.

Building Active Packs or Inventory into Picked Packs

You can use Pre-Shipper/Shipper Pack Build to build active packs or inventory into picked packs on the current pre-shipper or shipper.

In the Parent Pack frame, enter the picked pack serial ID on the current pre-shipper or shipper. When prompted to remove it from the pre-shipper or shipper, specify No to build more content into it.

In the Child Pack frame, enter the serial ID of an active pack or item to pick it for the pre-shipper or shipper and build it into the parent. Regardless of the parent serial ID, the active pack can be an assembly pack or unit pack, but if it is an assembly pack, make sure that it contains single items. If you want to build non-serialized items into the parent pack, leave the Serial ID field blank and then enter inventory information. As long as the pack code of the parent pack allows, a pack can hold multiple items and items of multiple lots.

In the SO Line frame, specify the sales orders and lines to link with the child pack or inventory.

Picking Active Packs Directly for Pre-Shipper or Shipper

You can use Pre-Shipper/Shipper Pack Build to directly pick active packs for the pre-shipper or shipper. In this scenario, Pre-Shipper/Shipper Pack Build functions in the same way as Pre-Shipper/Shipper Picking.

In the Parent pack frame, specify the serial ID of the pack to pick for the current pre-shipper/shipper.

The Child Pack frame is display only in either of the following situations:

- The pack is a unit pack that contains items of a single combination of item, lot, and reference.
- The pack is an assembly pack that contains single items of a single combination of item, lot, and reference, and has no items at the lower level.

Then in the SO Line frame, for a unit pack, enter the SO lines to pick the whole pack. You can enter multiple SO lines until all the quantity is assigned. For an assembly pack, enter a single SO line and the whole assembly pack is then picked for this SO line. If you want to pick the assembly pack for multiple SO lines, pick the lower-level packs one by one instead.

The Child Pack frame is editable in any of the following scenarios:

- Scenario A: The parent pack is a unit pack and contains items of multiple combinations of item, lot, and reference.
- Scenario B: The parent pack is an assembly pack that contains single items with multiple lots or references.
- Scenario C: The parent pack is an assembly pack that contains single items and also contains items not in a unit pack.
- Scenario D: The parent pack is an assembly pack that contains multiple items.

Under Scenario A, B, or C, you have two options. One is to pick the whole parent pack directly. The other option is to pick specific inventory for different SO lines.

- To directly pick the whole parent pack, leave the fields in the Child Pack frame blank, and click Next. Then in the SO Line frame, enter a single SO and line number.
- To select specific inventory to pick, enter the serial ID of a lower-level pack and then SO Line frame information to pick the lower-level pack. Leave the Serial ID field blank, enter inventory information, and then SO Line frame information to pick the lower-level items. This function does not support the scenario where a lower-level pack is an assembly pack and contains multiple items. Finish picking all the other lower-level packs or items. Otherwise, when you click Back, you are prompted to remove those unpicked packs or items from the parent pack. If you answer No, the system prompts you to remove the parent pack from the pre-shipper or shipper.

Under Scenario D, you cannot skip the Child Pack frame to directly pick the whole assembly pack. You are required to enter the serial IDs of lower-level packs to pick the lower-level packs one by one. If there are items at the lower level, enter the inventory information of the items to pick them. After you enter data in the Child Pack frame, specify information in the SO Line frame.

Picking Loose Inventory Directly and Building New Packs

You can use Pre-Shipper/Shipper Pack Build to directly pick loose inventory for the current pre-shipper or shipper, and build a new unit pack.

In the Parent Pack frame, specify the unit pack information. Do not leave both Serial ID field and Pack Code blank.

Enter the loose item serial ID in the Child Pack frame, and then specify the SO line to pick the serialized item and build it into the new unit pack.

Or, leave the Serial ID field blank, and enter the item number, site, location, lot, and reference. Then enter the SO line and quantity to pick the non-serialized inventory and build it into the new unit pack. If you leave the parent serial ID blank and specify a pack code, the system generates a parent serial ID automatically.

Picking Loose Inventory Directly Without a Package

You can use Pre-Shipper/Shipper Pack Build to directly pick loose inventory for the current pre-shipper or shipper without a package.

For non-serialized items, leave both Serial ID and Pack Code fields blank in the Parent Pack frame. The system disables the Serial ID field in the Child Pack frame. Enter a non-serialized item number and other inventory information. Then in the SO Line frame, enter the SO line and quantity to pick.

For serialized items, in the Parent Pack frame, enter the item serial ID. The system displays the stage, item number, site, location, lot, and other information in the Child Pack frame. Then, in the SO Line frame, enter the SO line.

Removing Serialized Packs or Items from SO Pre-Shipper/Shipper

Using Pre-Shipper/Shipper Pack Build, you can remove serialized inventory from a linked SO pre-shipper/shipper.

To remove a *Picked* pack or item, in the Parent Pack frame, enter the picked serial ID. Specify Yes when prompted to remove the pack/item from the current pre-shipper/shipper.

To remove an *Aggregated* pack, in the Parent Pack frame, enter the master pack serial ID. Specify No when prompted to remove the master pack from the current pre-shipper/shipper. Then in the Child Pack frame, enter the Aggregated serial ID that you want to remove. The system prompts you to first remove it from the current pre-shipper/shipper, and then removes it from its master pack. Respond with Yes to the prompts and the system activates the specified pack.

To remove an *Aggregated* item, in the Parent Pack frame, enter the aggregated item serial ID.

- If its parent pack is picked for a single SO line, select Yes when prompted to remove it from its parent pack. Then the item is removed from the parent pack and from the SO pre-shipper/shipper. The system activates the item serial ID, and decreases the quantity in the parent pack. When the parent pack is empty after the removal of the aggregated items, the system decommissions the parent pack serial ID.
- If its parent pack is picked for multiple SO lines, the system prompts you to remove its parent pack. Specify Yes, and the whole parent pack is removed from the pre-shipper/shipper, and from its master pack when its stage is Aggregated. The parent pack then becomes active. The system then prompts you to remove the specified item serial ID from its parent pack. Specify Yes, and the item is removed from the parent and becomes active.

Removing Non-Serialized Inventory from SO Pre-Shipper/Shipper

Using Pre-Shipper/Shipper Pack Build, you can remove non-serialized inventory from a linked SO pre-shipper/shipper.

To remove non-serialized items that are the direct content of a Picked assembly pack:

In the Parent Pack frame, enter the Picked assembly pack serial ID. When prompted to remove the pack from the pre-shipper/shipper, select No. Then in the Child Pack frame, leave the Serial ID field blank. Enter item number, site, location, and other inventory data. Then in the SO Line frame, specify the SO Line. In the Quantity to Pick field, enter a *negative* quantity to

remove the quantity from the assembly pack. The absolute value of the entered quantity cannot be greater than the quantity of the specified inventory at the lower level and picked for the specified SO line.

To remove non-serialized items that are linked with the SO pre-shipper/shipper without a package:

In the Parent Pack frame, leave both the Serial ID and Pack code fields blank. Then in the Child Pack frame, leave the Serial ID field blank, too. Enter the item number, site, location, and other inventory data. Then in the SO line frame, specify the SO line. In the Quantity to Pick field, enter a *negative* quantity to remove the quantity. The absolute value of the entered quantity cannot be greater than the quantity of the specified loose inventory picked for the specified SO line.

To remove non-serialized items from a Picked unit pack:

In the Parent Pack frame, enter the Picked unit pack serial ID. When prompted to remove the pack from the pre-shipper/shipper, select No. Then, in the Child Pack frame, leave the Serial ID field blank and enter the item number, site, location, and other inventory data. In the SO line frame, specify the SO line. In the Quantity to Pick field, enter a *negative* quantity to remove the quantity from the unit pack. The absolute value of the entered quantity cannot be greater than the quantity of the specified inventory in this unit pack and picked for the specified SO line.

Pack Kit Components for Shipment

You can pack serialized items, packs, or loose items in a kit into one shipment pack. The following table describes system results when you pack different kit items into a pack for shipment.

Table 4.7
Functions for Packing Kit Components

Function	Result
Pick a pack when items in it are kit components	The system validates that the item in the pack is a kit component item. When it is not, the system displays an error.
Pick an item serial ID when the item is a kit component	The system validates that the item is a kit component item when you enter an SO line for a kit. When not, the system displays and error.
Pick loose non-serialized inventory that is a kit component	The system validates that the item is a component of the kit item when you enter an SO line for a kit. When not, the system displays an error message saying it is not for the SO line.
Pick a kit item by itself for a kit SO line	The system displays an error message, informing you that you cannot pick a kit item.
Results of picking kit components	The system decreases the matching pending pick line when it exists and updates the allocation detail for the picked component. When the component is the first picked component of the kit item, the system: • Generates a picked line for the kit item. • Sets the site to the ship-from address. • Leaves Location, Lot/Serial, and Ref fields blank. • Does not generate allocation for this line. • Sets the Qty field to the quantity picked for the component in the current shipper * Scrap / Qty Per. • Verifies that there is a pending pick line for the kit item, and when Yes, decreases the line with the calculated quantity, but does not change allocation detail and does not recalculate quantity for components. Each time you pick a component, the system updates the quantity of the picked kit line. The system determines the quantity of the kit by the largest quantity determined by picked component. When you change the quantity the system verifies that there is a pending pick line for the kit item first, then decreases the line with the changed quantity without changing allocation detail.

Unpicking Components of Kit Item

You can unpick components of a kit item from a pre-shipper/shipper. When unpicking, you can change the pack structure, if necessary.

When you unpick a pack holding kit components, the system follows the logic to modify/create pending pick lines of the component.

The system updates the quantity of the picked kit line. The system determines the quantity of the kit by the largest quantity determined by picked component. When you change the quantity, the system updates or creates the pending pick line of the kit item with the quantity that you changed, but does not change the detail allocation. The system groups levels 1 and 2 of the pending pick lines of the kit item and components.

When you unpick a kit item component, the system increases the matching pending pick line for the component and adjusts the pending pick line.

Truck Load

Use Truck Load (7.8.4) to identify which master packs or loose serialized items staff have loaded into a truck. The system verifies that all master packs or loose serialized items linked with the pre-shipper/shipper have been physically loaded into the truck. Non-serialized loose inventory of an SO pre-shipper/shipper cannot be truck loaded.

You can use this program either before or after you confirm a shipper. Multiple users can use this program to load packs into trucks.

For SO (or customer scheduled order) Returns, the system does not support truck load for return pre-shippers/shippers. Also, for SO picking, when you pick a pack for a return pre-shipper/shipper, the system marks the pack as not loaded.

You can use the .NET UI Pre-Shipper/Shipper Truck Load Browse Collection to view the status of a truck load. The browse collection provides shipper data, and also tells you the total master packs, loaded master packs, and master packs and loose serialized items linked with the pre-shipper/shipper. You can complete loading using the Truck Load program.

Navigation

Use the following procedure to verify serialized packages that you load into a truck.

1. Enter shipper information.

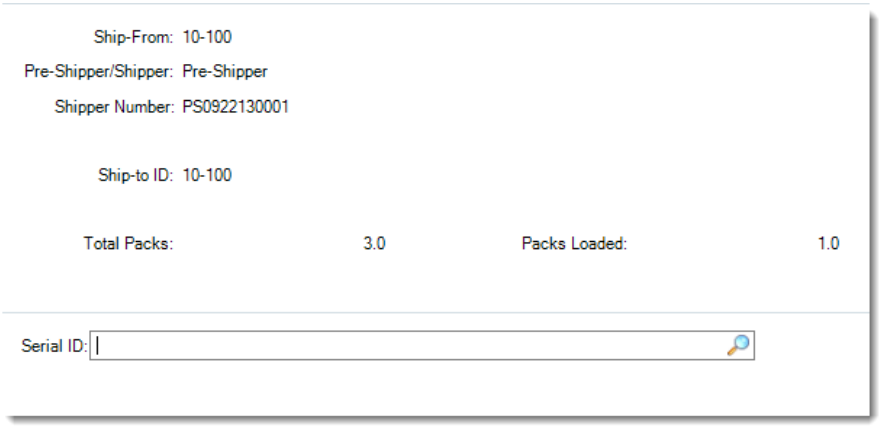
   The system displays the ship-to ID, the number of the total packs, and the number of the packs loaded.

2. Enter the serial ID of the master pack or loose item to load into the truck.

   After you enter the serial ID of the master pack, the system updates the value of Packs Loaded.

3. The system determines whether there are master pack or loose item serial IDs not loaded yet. When there are, the system displays a message prompting you to display the master packs not loaded. When no unloaded packs exist, you press Cancel to return to the first frame; however, the system maintains the shipping information.

Fig. 4.56
Truck Load (7.8.4)



Ship-From. Enter the site from which the per-shipper/shipper is shipped. The default is the last accessed pre-shipper/shipper record.

Pre-Shipper/Shipper. Specify either a pre-shipper or a shipper. The default is pre-shipper.

Shipper Number. Specify the pre-shipper or shipper number.

Ship-To ID. Displays the ship-to address code to which this pre-shipper/shipper is to be delivered.

Total Packs. Displays the total number of the master packs of the pre-shipper or shipper.

Packs Loaded. Displays the number of packs loaded into the truck.

Serial ID. Enter the master pack or loose serialized item to load into the truck for the specified pre-shipper/shipper. Do not enter a serial ID that is attached to a return pre-shipper or shipper.

Shipping Data Maintenance

Use Shipping Data Maintenance (7.8.6) to record actual measured logistics data of a master pack or loose serialized item linked with a pre-shipper/shipper. This function does not provide you with the ability to maintain the weight of non-serialized loose inventory linked with a pre-shipper/shipper.

1 Enter the serial ID of a master pack or a loose serialized item linked with an SO pre-shipper/shipper.

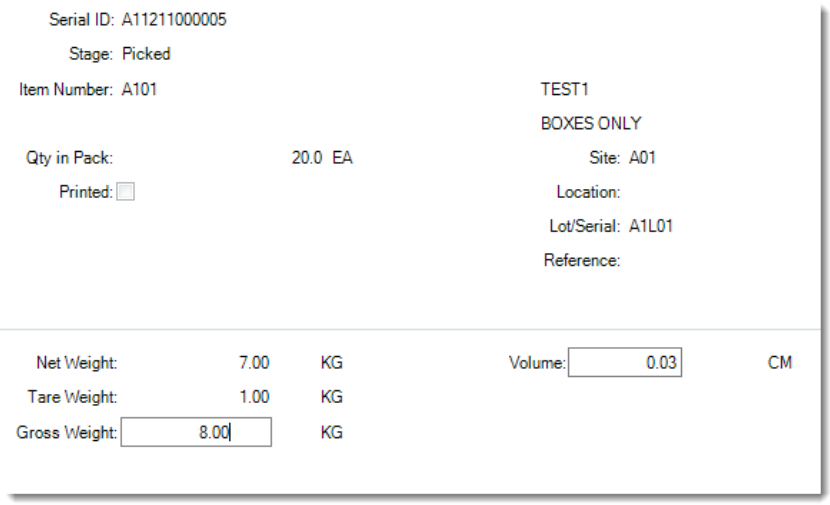
You can see information about:

- The stage of the serial ID
- The item and its description if only a single item links to the serial ID
- The quantity in the pack
- The site
- The lot/serial and reference if there is a single lot

2 In the Weight frame, update the volume and gross weight according to actual measured logistics data.

Note The Net Weight field and the Tare Weight field are read only. After you update the gross weight according to the actual weighed value, the system adjusts the tare weight and the net weight. The system also updates the weight values in the Pre-Shipper/Shipper Workbench to make them consistent with data in Shipping Data Maintenance.

Fig. 4.57
Shipping Data Maintenance



Serial ID. Enter the serial ID of a master pack or a loose serialized item for which you want to update the gross weight and volume.

Volume. Enter the volume of the master pack or item. The value defaults from the pre-shipper or shipper.

Gross Weight. Enter the gross weight of the master pack or item. The value defaults from the pre-shipper or shipper.

Move Pack between (Pre-)Shippers

When the truck arrives, it is possible that the truck does not have enough capacity to load all the materials. In order to avoid unpicking remaining packs from the pre-shipper or shipper and losing track of the goods picked for a specific ship-to/order line, you can use Move Pack between (Pre-) Shippers (7.8.12). Use Move Pack between (Pre-) Shippers to transfer the picked inventory from a source pre-shipper/shipper to an existing one for the same ship-from and ship-to combination or a new destination pre-shipper/shipper.

Note Non-serialized loose inventory linked with a pre-shipper/shipper cannot be moved.

1 Enter the destination pre-shipper/shipper information.

This destination pre-shipper or shipper can be either an existing pre-shipper/shipper or a new one. If you leave the Number field blank, the system can automatically produce a pre-shipper or shipper number.

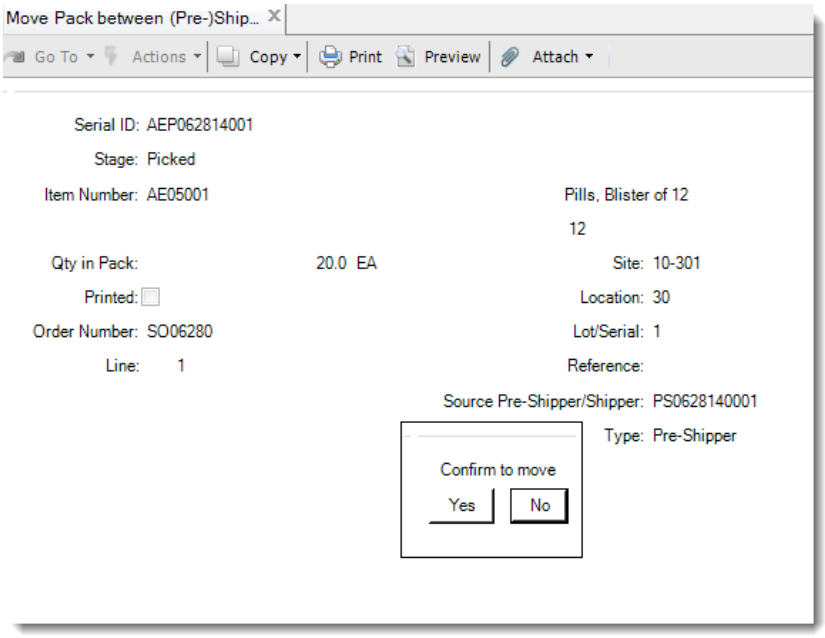
2 In the Serial ID field, specify the serial ID for a picked pack or a loose serialized item associated with the source pre-shipper or shipper.

Note If you specify a serial ID that is already picked for the destination pre-shipper or shipper, the system displays a warning message.

Note You are not allowed to move kit components from the source pre-shipper or shipper to the destination pre-shipper or shipper. If you enter a serial ID for a picked kit component in the Serial ID field, the system displays an error message.

The system then displays the source pre-shipper/shipper information for the serial ID and prompts you to confirm the move.

Fig. 4.58
Move Pack between (Pre-)Shippers (7.8.12)



3 Click Yes to confirm the transfer of the picked inventory from the source pre-shipper/shipper to the destination pre-shipper/shipper.

Viewing Pegging Data

The relationships between customer schedule requirements and serial IDs linked with shipper lines are maintained in the system.

For serialized packs or loose items, you can view the pegging data in any of the following functions:

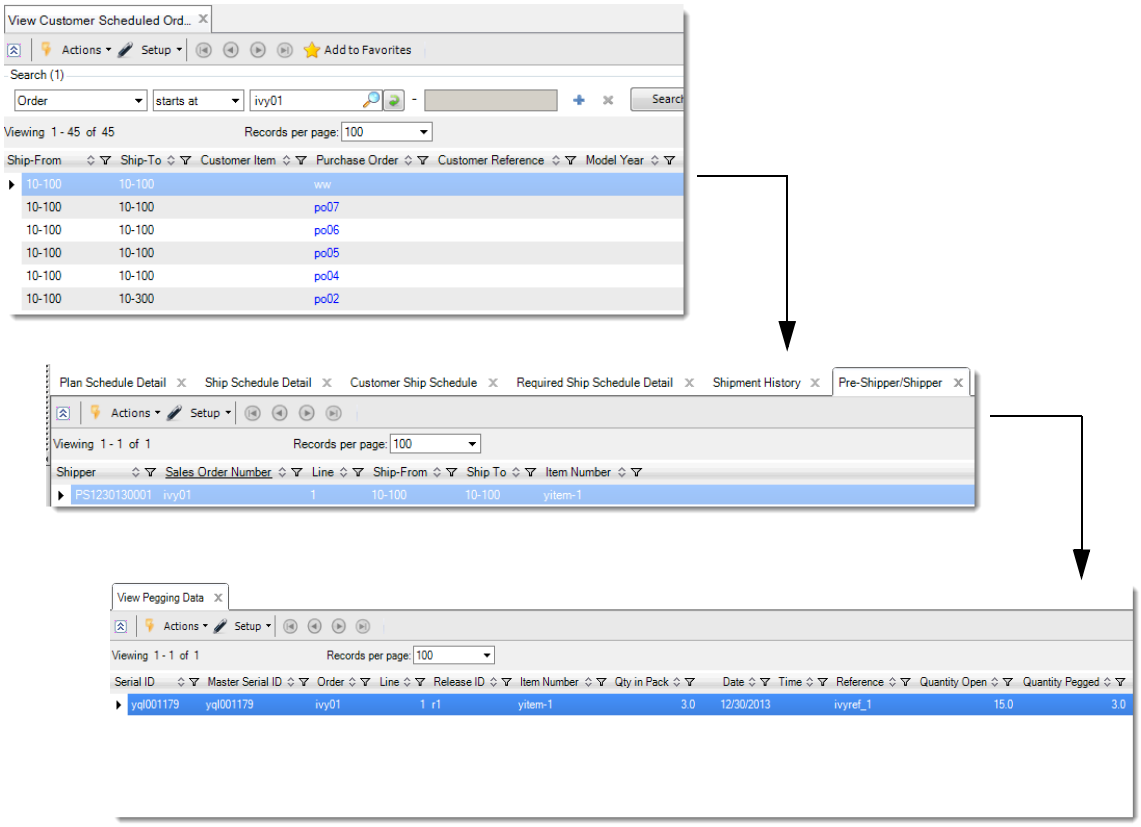
- Customer Scheduled Orders
- Manage Customer Scheduled Orders
- View Customer Scheduled Orders

To view the pegging data:

1 Right-click the order number and select Pre-Shipper/Shipper.

2 In the Pre-Shipper/Shipper browse, right-click the shipper ID and select View Pegging Data.

Fig. 4.59
View Pegging Data Browse



3 In the View Pegging Data browse, you can see the quantity of the serialized pack pegged to the schedule requirement, and other data.

Serial ID. The field displays the serial ID of the unit pack or loose item pegged to customer schedule requirements.

Master Serial ID. The field displays the serial ID of the master pack.

Order. The field displays the customer scheduled order for the pegged serialized packs.

Line. The field displays the line of the customer scheduled order.

Release ID. The field displays the specific version or release of a customer scheduled order.

Qty in Pack. The field displays the quantity of the unit pack or the serial IDs of loose items.

Date. The field displays the date when this quantity is delivered.

Time. The field displays the date when this quantity is delivered.

Reference. The field displays the reference number to identify a specific shipment or delivery quantity.

Quantity Open. The field displays the quantity of this item open at the time or date.

Quantity Pegged. The field displays the quantity of the serialized pack pegged to the schedule requirement.

Authorization Number. The field displays the reference number that the customer uses to identify a specific shipment or delivery quantity.

Note If you have assigned an authorization number in Required Ship Schedule Maint (7.5.3), the system prints the authorization number below each shipper line in the pre-shipper or shipper.

Shipper ID. The field displays the shipper number for the serialized pack or loose item.

Note

- After you use Pre-Shipper/Shipper Picking or Pre-Shipper/Shipper Pack Build, the system updates the pegged quantity when the order is set for automatic pegging.
- After you use Pre-Shipper/Shipper Confirm to confirm a shipper, the system sets Peg Qty of the Picked line to zero, but the Ship Line Peg Qty for each schedule requirement remains. When the shipper is unconfirmed, the system retrieves the value of Peg Qty.
- When you use Pre-Shipper/Shipper Confirm to return serial IDs pegged to customer schedule requirements, the system deletes the link between serial IDs and schedule requirements according to the following logic:
  - If you return a master pack, the system removes the pegging linked with all unit packs of the master pack.
  - If you return a loose item, the system removes the pegging linked with the loose item.
  - If you return a unit pack aggregated to the master pack, the system removes the pegging linked with the unit pack.
  - If you return items of a unit pack, the system reduces the peg quantity of the unit pack according to the quantity of items returned.
  - If you return inventory together with a unit pack fully or partially, the system removes the pegging.
- If Dynamic Unpeg is Yes in Customer Scheduled Order Maint (7.3.13), when you use Picklist/Pre-Shipper - Automatic (7.9.1), the system removes pegging information from any unconfirmed shippers or pre-shippers.
- The system always pegs serial IDs to the active release after you create a release and make it active.

DO Shipping

When your company employs the QAD Distribution Requirements Planning (DRP) module to manage item transfers between sites, you can also manage the shipping of distribution order (DO) serialized items using the existing QAD EE DO shipping programs.

Sites within a DRP environment may exist in different domains within a single database. The transfer of demand from the site receiving the items to the site supplying the items is through intersite requests. At the shipping site, intersite requests are grouped and associated with a single DO. Serialization functions consider the DRP requests, ship-from, and ship-to sites, and provide features and functions to ship serialized items through the DO shipping programs.

Note Serialization functions for DO shipping do not support multi-database DOs and DOs for kit items.

Programs to Use

The following steps describe both QAD EE and Serialization programs that you use when shipping:

1. Create a DO and intersite request, using QAD EE DO maintenance programs.
2. Create a picklist for the DO shipper, using DO Picklist/Pre-Shipper-Auto (12.19.1).
3. Use Pre-Shipper/Shipper Picking (12.9.1) to pick serial IDs for a DO pre-shipper/shipper and transfer the packages from the warehouse or shop floor location to the staging area.
4. Use Pre-Shipper/Shipper Pack Build (12.9.2) to pack goods based on the exact demand related to the specific pre-shipper/shipper.
5. Review the master serial IDs linked with the DO pre-shipper/shipper and view picked master serial ID on container ID for specified DO pre-shipper/shipper using DO Pre-Shipper/Shipper Maintenance (12.19.3).
6. During the truck loading process, use Truck Load (12.9.4) to identify which master packs or loose serialized items have been loaded into the vehicle.
7. Use Shipping Data Maintenance (12.9.6) to record actual measured logistic data for the master packs and loose serialized items.
8. Use Move Pack between (Pre-)Shippers (12.9.12) to transfer picked inventory from the current DO pre-shipper/shipper to another DO pre-shipper/shipper when necessary.
9. Confirm the DO shipper using DO Pre-Shipper/Shipper Confirm (12.19.13).
10. Print and report on the DO shipper using DO Pre-Shipper/Shipper Print (12.19.11).
11. Use the Shipping History browse collection to view DO-related shipping data for serialized inventory; see “Tracking and Tracing Shipping Data” on page 204.

You can view all packs and item serial IDs for an outbound DO shipper so that you can view shipper contents at any time. The system records pack and item data when you confirm the DO shipper using DO Pre-Shipper/Shipper Confirm. The system displays the entire hierarchy from the master pack to the item serial ID in the .NET UI Shipping History browse collection.

QAD Serialization functions are integrated into existing DRP DO shipper functions. The following topics discuss the functions and other information you need to know when processing shipping of serialized inventory for DOs.

DO Picklist Creation

Use DO Picklist/Pre-Shipper-Auto (12.19.1) to create a picklist for the DO pre-shipper or shipper. This function provides capabilities similar to those of SO picklist creation.

The system can display the suggested number of serialized packs for staff to pick. The system calculates the number of packs based on the detail allocated quantity and the packaging structure. It considers full top-level packs to pick first, then lower-level packs, and so on, until it finally considers the unit pack and loose items. For loose items, the system displays the word *item* in the Pack Code.

DO Pre-Shipper/Shipper Picking

Use Pre-Shipper/Shipper Picking (12.9.1) to pick serial IDs for a DO pre-shipper/shipper and transfer the packages from a warehouse or shop floor location to a staging area.

After picking, the specified serial ID becomes Picked and linked with the specified DO requests on the specified pre-shipper or shipper.

Navigation

This program contains several frames.

In the Pre-Shipper/Shipper frame, enter the DO pre-shipper/shipper information. If you have not already created a pre-shipper or shipper, leave the Number field blank to let the system automatically generate a DO pre-shipper or shipper.

If you want to merge the current pre-shipper or shipper with another pre-shipper or shipper, select the Merge Other Pre-Shippers field. Then, in the displayed Merge Pre-Shipper field, enter the pre-shipper or shipper ID with which to merge. The system merges the pre-shippers and displays a message that a picklist has been added to the merged pre-shipper. After you finish merging, click Back to display the Serial frame. If you do not want to do merging, do not select the Merge Other Pre-Shippers field. Click Next.

In the Serial frame, specify the serial ID to pick for the current DO pre-shipper/shipper.

To pick an active assembly pack that contains single items, enter the serial ID of the assembly pack in the Serial ID field.

- If the assembly pack does not contain items at the lower level, the system displays the stage, item number, quantity available, site, location, lot/serial, and reference of the item. The displayed data is from the serial ID that you enter. In the DO Request frame, you enter a single DO number and request ID. Then the whole assembly pack is picked.
- If the assembly pack contains items at the lower level, you have two options. You can directly pick the whole assembly pack, or you can pick the assembly pack part by part. If you directly pick the whole assembly pack, this pack can only be picked for a single DO request.
  - To directly pick the whole assembly pack, leave the Item Number, Lot/Serial, and Reference fields blank and click Next. Then in the DO Request frame, enter a single DO number and request.
  - To pick the assembly pack part by part, first pick the lower-level items. Enter the item number, lot, and reference data to indicate which inventory you are picking. Then in the DO Request frame, enter DO request and quantity to pick information. The system prompts you to enter DO requests until all the quantity of the same combination of item, lot, reference is assigned. Items of the same combination of item, lot, and reference can be picked for multiple requests, but only for a single DO. Then enter the serial IDs of other lower-level packs to pick the packs one by one. Finish picking all the lower-level packs or items. Otherwise, when you click Back, you are prompted to remove those unpicked packs or items from the master pack. If you answer No, the system prompts you to remove the master pack from the pre-shipper or shipper.

To pick an active assembly pack that contains multiple items, you cannot directly enter the serial ID of the assembly pack in the Serial ID field. Instead, enter the serial IDs of lower-level packs to pick the lower-level packs one by one. If there are items at the lower level, enter the inventory

information of the items to pick them. After entering the serial ID of a lower-level pack, answer No when prompted to remove it, and then enter data in the DO Request frame to pick the lower-level pack. For unit packs, the system prompts you to continue entering multiple DO requests until the Qty in Pack is assigned to the DO requests. If the lower-level pack is a unit pack and contains multiple items, lots, or references, after entering the pack serial ID, you can also enter the inventory information. This function does not support the scenario where a lower-level pack is an assembly pack and contains multiple items.

To pick an active unit pack, enter the serial ID of the unit pack in the Serial ID field.

- If the unit pack contains items of a single item number, lot, and reference, the system displays inventory information. Enter the DO request information to pick the unit pack. If the cumulative quantity entered is less than the Quantity in Pack, the system prompts you to continue entering DO requests until the Quantity in Pack is assigned to the DO requests. Make sure that all the specified requests are linked with a single DO.
- If the unit pack contains single items with multiple lots or references, you have two options. One is to directly pick the whole unit pack for a single DO request. The other is to specify specific inventory to pick for different DO requests.
  - To directly pick the whole unit pack, leave the Item Number, Lot/Serial, and Reference fields blank. Then enter a single DO request to pick the whole unit pack.
  - To select specific inventory to pick, enter inventory information to indicate which inventory you are picking. Then enter the DO request and quantity to pick information to pick the specified inventory. The system prompts you to enter DO requests until all the quantity of the specified inventory in the unit pack is assigned. But make sure that the DO requests for the same combination of item, lot, and reference are linked with a single DO. Finish picking all the other inventory in the unit pack. Otherwise, when you click Back, you are prompted to remove the unpicked inventory from the unit pack. If you answer No, the system prompts you to remove the unit pack from the pre-shipper or shipper.
- If the unit pack contains multiple items, you are required to select the specific inventory to pick. Enter inventory information to indicate which inventory you are picking. Then in the DO Request frame, enter the DO request and quantity to pick data. The system prompts you enter DO requests until all the quantity of the specified inventory in the unit pack is assigned. But make sure that the DO requests for the same combination of item, lot, and reference are linked with a single DO. Finish picking all the other inventory in the unit pack. Otherwise, when you click Back, you are prompted to remove the unpicked inventory from the unit pack. If you answer No, the system prompts you to remove the unit pack from the pre-shipper or shipper.

You can also pick loose serialized items using this function. In the Serial ID field, enter an active item serial ID and then enter DO request information to pick the serialized item.

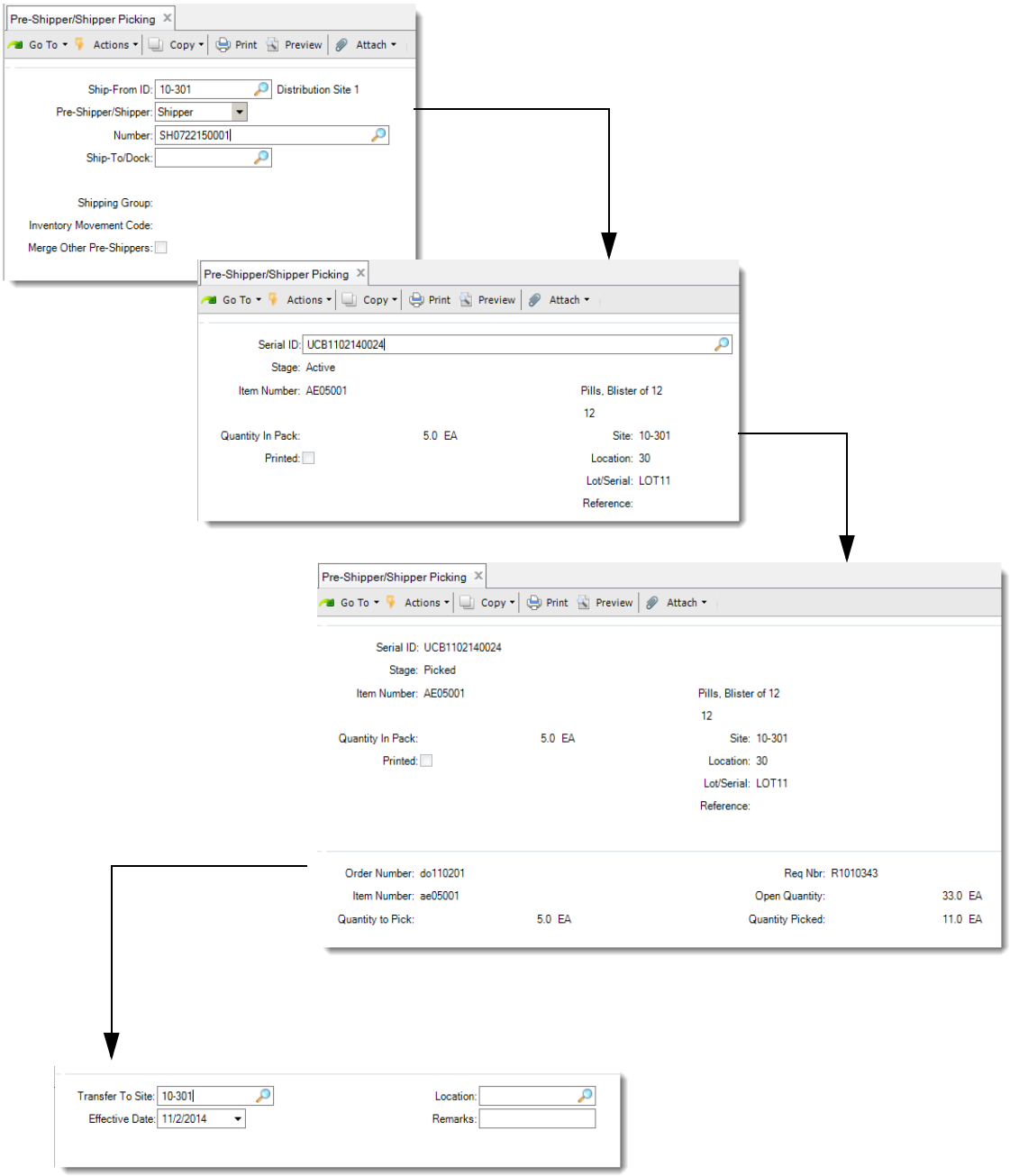
If you enter an item serial ID aggregated on an active master pack, the system prompts you to remove it. If you respond with Yes, the item is then removed from the master pack and becomes active. You can then enter DO request information to pick the item for the current pre-shipper or shipper. If you respond with No, you are required to reenter a serial ID.

If you enter a pack serial ID aggregated on an active master pack, the system prompts you to remove it. If you respond with Yes, the pack is then removed from the master pack and becomes active. You can then enter DO request information to pick the pack for the current pre-shipper or shipper. If you respond with No, after you specify the DO requests for the pack and click Next, the

parent pack is partially *Picked* and linked with the same DO requests. You are then required to either pick the other downstream packs of the parent pack or remove them from the pre-shipper or shipper.

When you finish picking serial IDs, click Back to display the Destination frame and enter the staging area. To pick serial IDs without transferring packs to the staging area, leave all fields blank.

Fig. 4.60
Pre-Shipper/Shipper Picking (12.9.1)



Ship-from ID. Enter the site from which the serial IDs are shipped.

Pre-Shipper/Shipper. Enter either shipper or pre-shipper. The default is pre-shipper. The value you enter determines whether you pick serial IDs for a pre-shipper or a shipper.

Number. Enter the number of the pre-shipper or shipper, or leave it blank to let the system generate a DO pre-shipper/shipper.

Note Do not enter the pre-shipper or shipper that links with an open task in Warehousing. Otherwise, the system displays an error message.

Ship-To/Dock. This field is display only when you enter the pre-shipper or shipper number. It shows the ship-to site to which this pre-shipper/shipper is delivered.

If you leave the Number field blank, you are required to enter the ship-to or dock address code to which this shipper is to be delivered.

Shipping Group. This field is display only. The system searches for a shipping group based on the Ship-From and Ship-To/Dock address combination.

Inventory Movement Code. Enter an inventory movement code for this shipment. Inventory movement codes determine the default Number Range Management (NRM) sequences, carriers, and document formats. If specified, the system verifies that the code exists in the inventory movement detail record for the shipping group. If no shipping group is available for the Ship-From and Ship-To/Dock address combination, leave this field blank.

You are required to have access to this inventory movement code, defined in Inventory Movement Code Security.

Serial ID. Enter the serial ID to pick for the pre-shipper/shipper. Item serial ID, unit pack, and assembly pack are all supported. If the entered serial ID is aggregated on an active pack, the system prompts you to remove the pack from its master pack automatically. If you enter a serial ID that is picked for the current pre-shipper/shipper, it means that you want to unpick it. Do not try to enter a serial ID that is picked for another pre-shipper/shipper

Order Number/Req Nbr. Enter the DO and request number for which you pick the serial ID.

Quantity to Pick . Enter the quantity to pick for the specified DO request.

Transfer To Site. Enter the destination site to which the pack or item moves. This field indicates the staging area. The value defaults from the ship-from of the pre-shipper/shipper.

Location. Enter the destination location to which the packs move.

Note If the specified pack is associated with an open task in Warehousing, the system does not transfer it to the specified location.

Effective Date. Enter the GL effective date for the transfer transaction. This value defaults from the system date.

Remarks. Optionally, enter brief remarks associated with this transfer.

Unpicking Serialized Pack or Item from DO Pre-Shipper/Shipper

After you pick an assembly pack, unit pack, or serialized item, you can also use Pre-Shipper/Shipper Picking to unpick all or part of the serialized inventory. By unpicking, you remove the inventory from the pre-shipper/shipper.

In Pre-Shipper/Shipper Picking, enter the DO pre-shipper/shipper information.

In the Serial ID field, enter the serial ID picked for the current DO pre-shipper/shipper.

When you enter a *Picked* serial ID, respond with Yes when prompted to remove the serial ID from the current pre-shipper/shipper. The system then clears order information for it and activates it.

When you enter an *Aggregated* pack serial ID, the system prompts you to first remove it from the current pre-shipper/shipper, and then removes it from its master pack. Respond with Yes to the prompts and the system activates the specified pack.

When you enter an item serial ID *Aggregated* on a master pack picked for the current pre-shipper/shipper:

- If its parent pack is picked for a single DO request, select Yes when prompted to remove it from its parent pack. Then the item is removed from the parent pack and from the DO pre-shipper/shipper. The system activates the item serial ID, and decreases the quantity in the parent pack. When the parent pack is empty after the removal of the aggregated items, the system decommissions the parent pack serial ID.
- If its parent pack is picked for multiple DO requests, the system prompts you to remove its parent pack. Specify Yes, and the whole parent pack is removed from the pre-shipper/shipper, and from its master pack when its stage is *Aggregated*. The parent pack then becomes active. The system then prompts you to remove the specified item serial ID from its parent pack. Specify Yes, and the item is removed from the parent and becomes active.

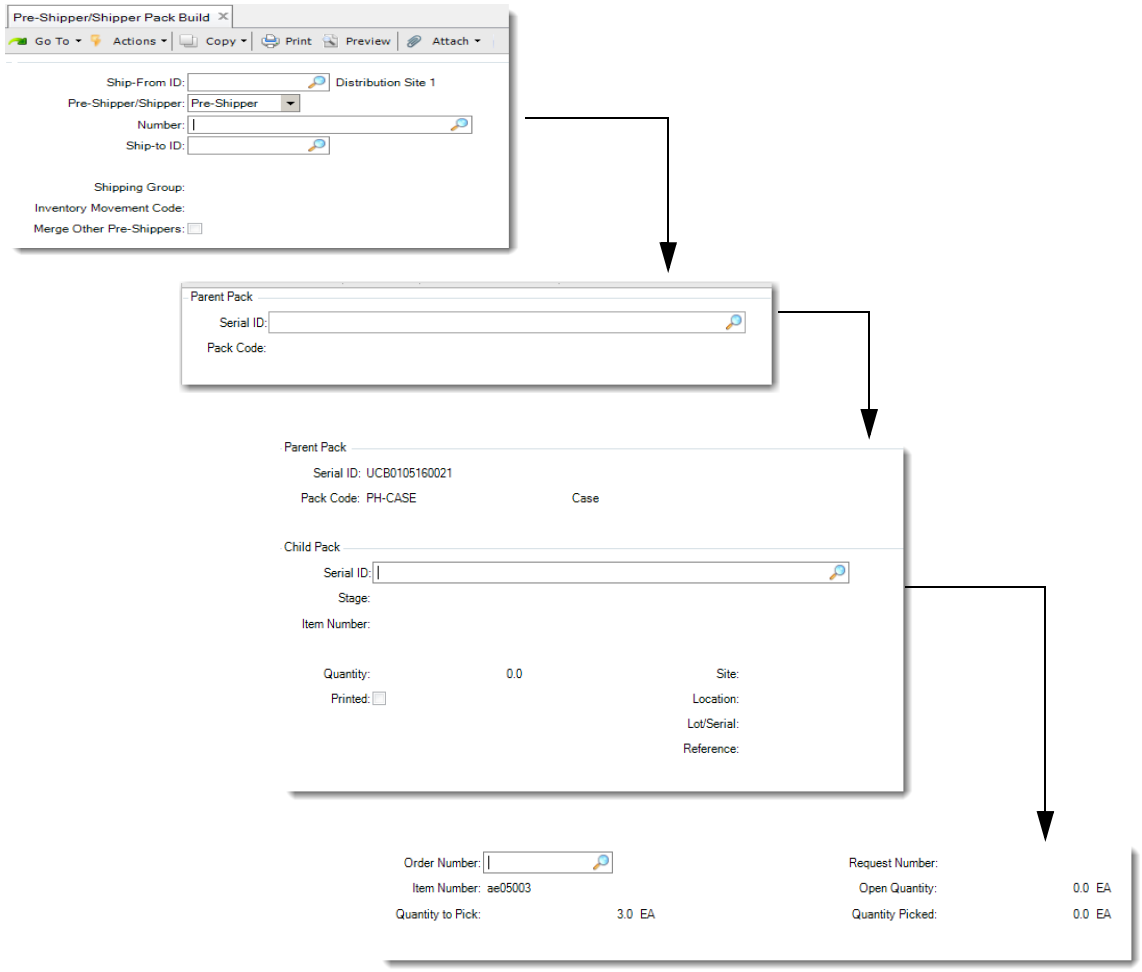
DO Pre-Shipper/Shipper Packing

Use Pre-Shipper/Shipper Pack Build (12.9.2) to pack DO goods based on the exact demand of a specific pre-shipper/shipper. You can:

- Package picked packs or inventory into a parent pack.
- Build active packs or inventory into picked packs on current pre-shipper/shipper.
- Directly pick the packs or items from the inventory for current pre-shipper/shipper.

Note Kit items are not supported; however, you can pick kit components using Pre-Shipper/Shipper Picking.

Fig. 4.61
Pre-Shipper/Shipper Pack Build (12.9.2)



Ship-From ID. Enter the site from which the serial IDs are shipped.

Pre-Shipper/Shipper. Select Pre-Shipper or Shipper.

Number. Enter the number of the pre-shipper or shipper. If you have not created a pre-shipper or shipper, leave the Number field blank to let the system automatically generate a pre-shipper or shipper.

Note Do not enter the pre-shipper or shipper that links with an open task in Warehousing. Otherwise, the system displays an error message.

Ship-To/Dock. When you have entered a pre-shipper or shipper number, this field is display only and indicates the ship-to address. When you leave the Number field blank, enter a ship-to address.

Shipping Group. This field is display only. The system searches for a shipping group based on the Ship-From and Ship-To/Dock address combination.

Inventory Movement Code. Enter an inventory movement code for this shipment. Inventory movement codes determine the default Number Range Management (NRM) sequences, carriers, and document formats. If specified, the system verifies that the code exists in the inventory movement detail record for the shipping group. If no shipping group is available for the Ship-From and Ship-To/Dock address combination, leave this field blank.

You are required to have access to this inventory movement code, defined in Inventory Movement Code Security.

Merge other Pre-Shippers. Specify Yes to merge a pre-shipper with this pre-shipper/shipper. When Yes, the system prompts you to enter the pre-shipper number to merge with this pre-shipper/shipper.

Merge Pre-Shipper. When Merge other Pre-Shippers is Yes, this field displays. It identifies the pre-shipper to merge with the pre-shipper/shipper.

Serial ID. Enter a valid serial ID as the parent pack. Or leave this field blank.

Pack Code. This field indicates the pack code of the serial ID. When enabled, enter the pack code of the serial ID.

Serial ID. When enabled, enter a valid serial ID to build into or remove from the parent pack. When the parent serial ID is booked for a sales order line, make sure that this serial ID is booked for the same master sales order line.

Order Number/Request Number. Enter the DO and request number for which you pick the serial ID.

Quantity To Pick. Enter the number of the items to pick for the entered DO request.

Packaging Picked Packs or Inventory into a Parent Pack

You can use Pre-Shipper/Shipper Pack Build to package picked packs or inventory into a parent pack. The parent pack can be new, or already picked for the current pre-shipper or shipper. The parent pack can be an assembly pack or a unit pack.

In the Parent Pack frame, specify information of the parent pack.

If you want to generate a new pack, you can do any of the following:

- Enter a serial ID with stage set as New.
- Enter a serial ID with stage set as Booked for a master sales order line.
- Enter a nonexistent serial ID.
- Leave Serial ID blank.

When you enter a Booked or nonexistent serial ID, or leave the Serial ID field blank, you are required to enter a pack code in the Pack Code field. If you enter a nonexistent serial ID, the system validates it by the number range determined by site (Ship-From), address (Ship-To), transaction type, item, and pack code. If you enter a Booked serial ID, make sure that it is linked with the same master SO line as the child packs you want to build into it. Also make sure that the related master SO line of the booked serial ID has matching ship-from/site and ship-to address codes with the current pre-shipper or shipper.

If you enter a Picked pack serial ID, specify No when prompted to remove it from the pre-shipper or shipper.

In the Child Pack frame, enter the serial ID of a picked pack or item to build into the parent. Or, leave the Serial ID field blank and enter inventory information to pack picked loose inventory into the parent. The picked pack can be an assembly pack or a unit pack, regardless of the parent serial ID.

Building Active Packs or Inventory into Picked Packs

You can use Pre-Shipper/Shipper Pack Build to build active packs or inventory into picked packs on the current pre-shipper or shipper.

In the Parent Pack frame, enter the picked pack serial ID on the current pre-shipper or shipper. When prompted to remove it from the pre-shipper or shipper, specify No to build more content into it.

In the Child Pack frame, enter the serial ID of an active pack or item to pick it for the pre-shipper or shipper and build it into the parent. Regardless of the parent serial ID, the active pack can be an assembly pack or unit pack, but if it is an assembly pack, make sure that it contains single items. If the parent serial ID is booked for a master SO line, make sure that the entered child serial ID is booked for the same master SO line. If the parent serial ID is not booked, you cannot enter a child serial ID that is booked for any SO line. If you want to build non-serialized items into the parent pack, leave the Serial ID field blank and then enter inventory information. As long as the pack code of the parent pack allows, a pack can hold multiple items and items of multiple lots.

In the DO Request frame, specify the distribution order and request information to link with the child pack or inventory.

Picking Active Packs Directly for Pre-Shipper or Shipper

You can use Pre-Shipper/Shipper Pack Build to directly pick active packs for the pre-shipper or shipper. In this scenario, Pre-Shipper/Shipper Pack Build functions in the same way as Pre-Shipper/Shipper Picking.

In the Parent Pack frame, specify the serial ID of the pack to pick for the current pre-shipper/shipper.

The Child Pack frame is display only in either of the following situations:

- The parent pack is a unit pack that contains items of a single combination of item, lot, and reference.
- The parent pack is an assembly pack that contains items of a single combination of item, lot, and reference, and has no items at the lower level.

Then in the DO Request frame, for a unit pack, enter the DO request information to pick the whole pack. You can enter multiple requests until all the quantity is assigned. But make sure that all the requests are linked with a single DO. For an assembly pack, you can enter a single DO request only, and the whole assembly pack is then picked for this DO request. If you want to pick the assembly pack for multiple DO requests, pick the lower-level packs one by one instead.

The Child Pack frame is editable in any of the following scenarios:

- Scenario A: The parent pack is a unit pack and contains items of multiple combinations of item, lot, and reference.
- Scenario B: The parent pack is an assembly pack that contains single items with multiple lots or references.
- Scenario C: The parent pack is an assembly pack that contains single items and also contains items not in a unit pack.
- Scenario D: The parent pack is an assembly pack that contains multiple items.

Under Scenario A, B, or C, you have two options. One is to pick the whole parent pack directly. The other option is to pick specific inventory for different SO lines.

- To directly pick the whole parent pack, leave the fields in the Child Pack frame blank, and click Next. Then in the DO Request frame, enter a single DO number and request ID.
- To select specific inventory to pick, enter the serial ID of a lower-level pack and then DO Request frame information to pick the lower-level pack. Leave the Serial ID field blank, enter inventory information, and then DO Request frame information to pick the lower-level items. This function does not support the scenario where a lower-level pack is an assembly pack and contains multiple items. Finish picking all the other lower-level packs or items. Otherwise, when you click Back, you are prompted to remove those unpicked packs or items from the parent pack. If you answer No, the system prompts you to remove the parent pack from the pre-shipper or shipper.

Under Scenario D, you cannot skip the Child Pack frame to directly pick the whole assembly pack. You are required to enter the serial IDs of lower-level packs to pick the lower-level packs one by one. If there are items at the lower level, enter the inventory information of the items to pick them. After you enter data in the Child Pack frame, specify information in the DO Request frame.

Picking Loose Inventory and Building New Packs

You can use Pre-Shipper/Shipper Pack Build to pick loose inventory for the current pre-shipper or shipper, and build a new unit pack.

In the Parent Pack frame, specify the unit pack information. Do not leave both Serial ID field and Pack Code blank.

Enter the loose item serial ID in the Child Pack frame, and then specify the DO request to pick the serialized item and build it into the new unit pack.

Or, leave the Serial ID field blank, and enter item number, site, location, lot, and reference. Then enter the DO request and quantity information to pick the non-serialized inventory and build it into the new unit pack. If you leave the parent serial ID blank and specify a pack code, the system generates a parent serial ID automatically.

Picking Loose Inventory Directly Without a Package

You can use Pre-Shipper/Shipper Pack Build to directly pick loose inventory for the current pre-shipper or shipper without a package.

For non-serialized items, leave both Serial ID and Pack Code fields blank in the Parent Pack frame. The system disables the Serial ID field in the Child Pack frame. Enter a non-serialized item number and other inventory information. Then in the DO Request frame, enter the DO request and quantity to pick information.

For serialized items, in the Parent Pack frame, enter the item serial ID. The system displays the stage, item number, site, location, lot and other information in the Child Pack frame. Then, in the DO Request frame, enter the DO request.

Removing Serialized Packs or Items from DO Pre-Shipper/Shipper

Using Pre-Shipper/Shipper Pack Build, you can remove serialized inventory from a linked DO pre-shipper/shipper.

To remove a *Picked* pack or item, in the Parent Pack frame, enter the picked serial ID. Specify Yes when prompted to remove the pack/item from the current pre-shipper/shipper.

To remove an *Aggregated* pack, in the Parent Pack frame, enter the master pack serial ID. Specify No when prompted to remove the master pack from the current pre-shipper/shipper. Then in the Child Pack frame, enter the *Aggregated* serial ID that you want to remove. The system prompts you to first remove it from the current pre-shipper/shipper, and then removes it from its master pack. Respond with Yes to the prompts and the system activates the specified pack.

To remove an *Aggregated* item, in the Parent Pack frame, enter the aggregated item serial ID.

- If its parent pack is picked for a single DO request, select Yes when prompted to remove it from its parent pack. Then the item is removed from the parent pack and from the DO pre-shipper/shipper. The system activates the item serial ID, and decreases the quantity in the parent pack. When the parent pack is empty after the removal of the aggregated items, the system decommissions the parent pack serial ID.
- If its parent pack is picked for multiple DO requests, the system prompts you to remove its parent pack. Specify Yes, and the whole parent pack is removed from the pre-shipper/shipper, and from its master pack when its stage is *Aggregated*. The parent pack then becomes active. The system then prompts you to remove the specified item serial ID from its parent pack. Specify Yes, and the item is removed from the parent and becomes active.

Removing Non-Serialized Inventory from DO Pre-Shipper/Shipper

Using Pre-Shipper/Shipper Pack Build (12.9.2), you can remove non-serialized inventory from a linked DO pre-shipper/shipper.

- To remove non-serialized items that are the direct content of a *Picked* assembly pack:

  In the Parent Pack frame, enter the *Picked* assembly pack serial ID. When prompted to remove the pack from the pre-shipper/shipper, select No. Then in the Child Pack frame, leave the Serial ID field blank. Enter item number, site, location, and other inventory data. Then in the DO request frame, specify the DO request. In the Quantity to Pick field, enter a *negative* quantity to remove the quantity from the assembly pack. The absolute value of the entered quantity cannot be greater than the quantity not in a unit pack and picked for the specified DO request.
- To remove non-serialized items that are linked with the DO pre-shipper/shipper without a package:

In the Parent Pack frame, leave both the Serial ID and Pack code fields blank. Then in the Child Pack frame, leave the Serial ID field blank, too. Enter the item number, site, location, and other inventory data. Then in the DO request frame, specify the DO request. In the Quantity to Pick field, enter a *negative* quantity to remove the quantity. The absolute value of the entered quantity cannot be greater than the quantity of the loose inventory picked for the specified DO request.

- To remove non-serialized items from a *Picked* unit pack:

  In the Parent Pack frame, enter the *Picked* unit pack serial ID. When prompted to remove the pack from the pre-shipper/shipper, select No. Then, in the Child Pack frame, leave the serial ID field blank and enter the item number, site, location, and other inventory data. In the DO request frame, specify the DO request. In the Quantity to Pick field, enter a *negative* quantity to remove the quantity from the unit pack. The absolute value of the entered quantity cannot be greater than the quantity in this unit pack and picked for the specified DO request.

Viewing Linked Master Serial IDs

You can use DO Pre-Shipper/Shipper Maint (12.19.3) to view master serial IDs linked with the DO pre-shipper/shipper.

The system displays picked master serial IDs on container IDs for a DO pre-shipper/shipper. You can scroll through the serial IDs. You can also view picked master serial IDs for the pre-shipper/shippers.

You cannot enter a master serial ID that you have not picked for the pre-shipper/shipper. When you try, the system displays an error message.

You can remove a picked master pack from the pre-shipper/shipper. When you do so, the system also removes detail allocation.

DO Truck Load

Use Truck Load (12.9.4) to identify which master packs or loose serialized items have been loaded into a vehicle. The system verifies that all master packs or loose serialized items linked with the DO pre-shipper/shipper have been physically loaded. Non-serialized loose inventory of a DO pre-shipper/shipper cannot be truck loaded.

Multiple users can use this function at the same time to load packs into trucks.

Note You can perform truck loading before or after confirming the DO pre-shipper/shipper. If you load a serial ID after confirming the DO pre-shipper/shipper, the system updates the shipping history. But, if the In-Transit site is in a domain other than the supply domain, you are not allowed to do truck loading after you confirm the pre-shipper/shipper.

You can use the Pre-Shipper/Shipper Truck Load browse collection to view the status of truck loading. The browse collection provides pre-shipper/shipper data, the total master packs, loaded master packs, and master packs and loose serialized items linked with the pre-shipper/shipper. All the master packs and loose serialized items are listed in the Truck Load Serial Browse drill-down browse. After you use Truck Load (12.9.4) to load a master pack or loose serialized item into the truck, the Loaded field is Yes for the serial ID. You can complete loading using the Truck Load function.

Navigation

Use the following procedure to verify serialized packages that you load into a truck.

1. Enter the DO pre-shipper or shipper information associated with this truck loading.

   The system displays Ship-to ID, the number of the total packs, and the number of the packs loaded.

   Note The system does not support truck loading for return pre-shipper/shippers. So you cannot enter a return pre-shipper/shipper here.

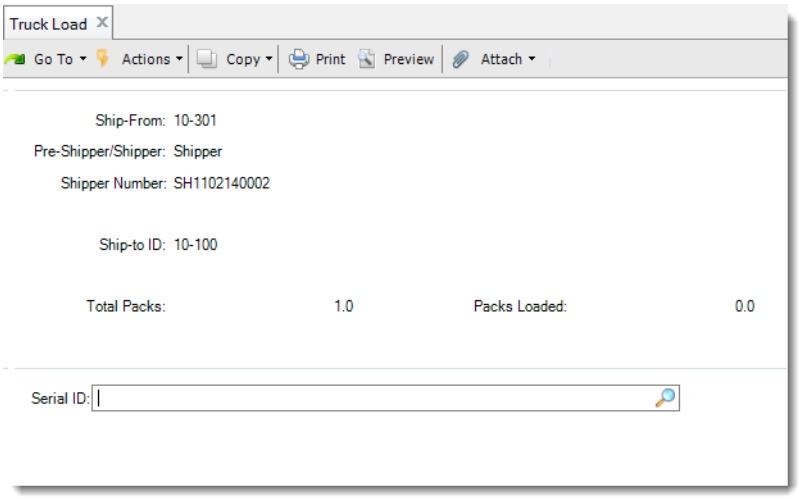
2. Enter the serial ID of the master pack or loose item that is linked with the current pre-shipper/shipper and being loaded into the truck.

   Then the system updates the number of packs loaded, which is displayed in the Packs Loaded field.

   If you enter a serial ID that is already loaded, the system displays a warning message and prompts you to unload it. If you specify Yes, the system unloads it and updates the Packs Loaded value.

3. When you click Back to finish loading, the system determines whether there are master pack or loose item serial IDs not loaded yet. When there are, the system prompts you to display the master packs not loaded. When all the master packs and loose serialized items linked with the current DO pre-shipper/shipper are loaded, the cursor returns to the first frame.

Fig. 4.62
Truck Load (12.9.4)



Ship-From. Enter the site from which the pre-shipper/shipper is shipped. The default is the last accessed pre-shipper/shipper record.

Pre-Shipper/Shipper. Specify either a pre-shipper or a shipper. The default is pre-shipper.

Shipper Number. Specify the pre-shipper or shipper number.

Ship-To ID. Displays the ship-to address code to which this pre-shipper/shipper is to be delivered.

Total Packs. Displays the total number of master packs of the pre-shipper or shipper.

Packs Loaded. Displays the number of packs loaded into the truck.

Serial ID. Enter the master pack or loose serialized item to load into the truck for the specified pre-shipper/shipper. Do not enter a serial ID that is attached to a return pre-shipper or shipper.

Maintaining DO Shipping Data

Use Shipping Data Maintenance (12.9.6) to record actual measured logistics data for a master pack or loose serialized item linked with a DO pre-shipper/shipper. You cannot use this function to maintain the weight of non-serialized loose inventory linked with a DO pre-shipper/shipper.

Note You can maintain the shipping data before or after confirming the pre-shipper/shipper. If you change the shipping data after the pre-shipper/shipper is confirmed, the system updates the weight and volume values of the serial IDs in shipping history. But if the In-Transit site is in a domain other than the supply domain, you are not allowed to maintain shipping data after the pre-shipper/shipper is confirmed.

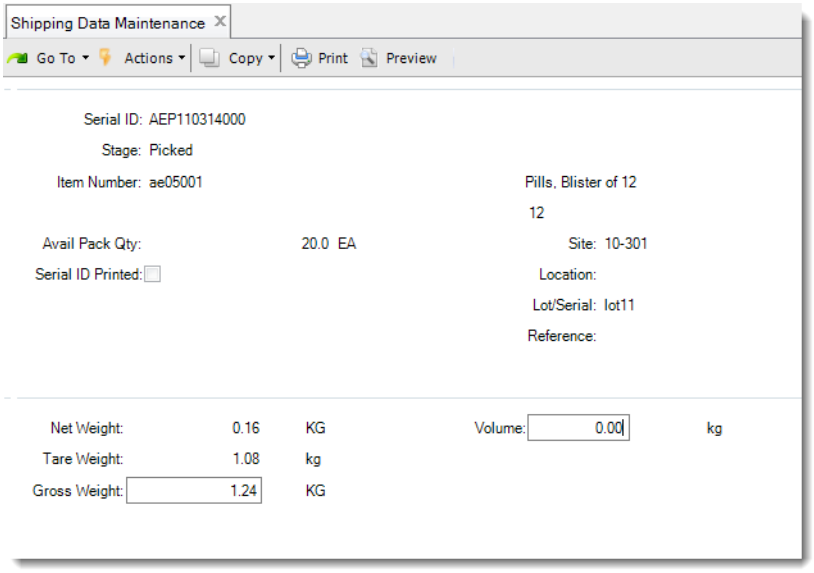
1 Enter the serial ID of a master pack or loose serialized item linked with a DO pre-shipper/shipper.

You can see information about:

- The stage of the serial ID
- The item and its description if only a single item links with the serial ID
- The quantity in the pack
- The site
- The lot/serial and reference if there is a single lot

2 In the Weight frame, update the volume and gross weight according to actual measured logistics data.

Fig. 4.63
Shipping Data Maintenance (12.9.6)



Serial ID. Enter the serial ID of a master pack or a loose serialized item for which you want to update the gross weight and volume.

Volume. Enter the volume of the master pack or item. The value defaults from the pre-shipper or shipper.

Gross Weight. Enter the actual measured gross weight of the master pack or item. The value defaults from the pre-shipper or shipper

Moving Packs Between DO (Pre-)Shippers

When the vehicle arrives, it is possible that the vehicle does not have enough capacity to load all the DO goods. To avoid unpicking remaining packs from the DO pre-shipper or shipper and losing track of the goods picked for a specific ship-to/DO request, you can use Move Pack between (Pre-)Shippers (12.9.12). Use Move Pack between (Pre-)Shippers to transfer the picked inventory from the source DO pre-shipper/shipper to another existing DO pre-shipper/shipper, or a new one.

Note Non-serialized inventory linked with a DO pre-shipper/shipper cannot be moved.

Make sure that the destination DO pre-shipper/shipper has the same ship-from and ship-to as the source DO pre-shipper/shipper.

1. Enter the destination pre-shipper/shipper information.

   This destination pre-shipper or shipper can be an existing pre-shipper/shipper or a newly created one. Leave the Number field blank to let the system automatically produce a new pre-shipper or shipper. Make sure that the destination DO pre-shipper/shipper has the same ship-from and ship-to as the source DO pre-shipper/shipper.

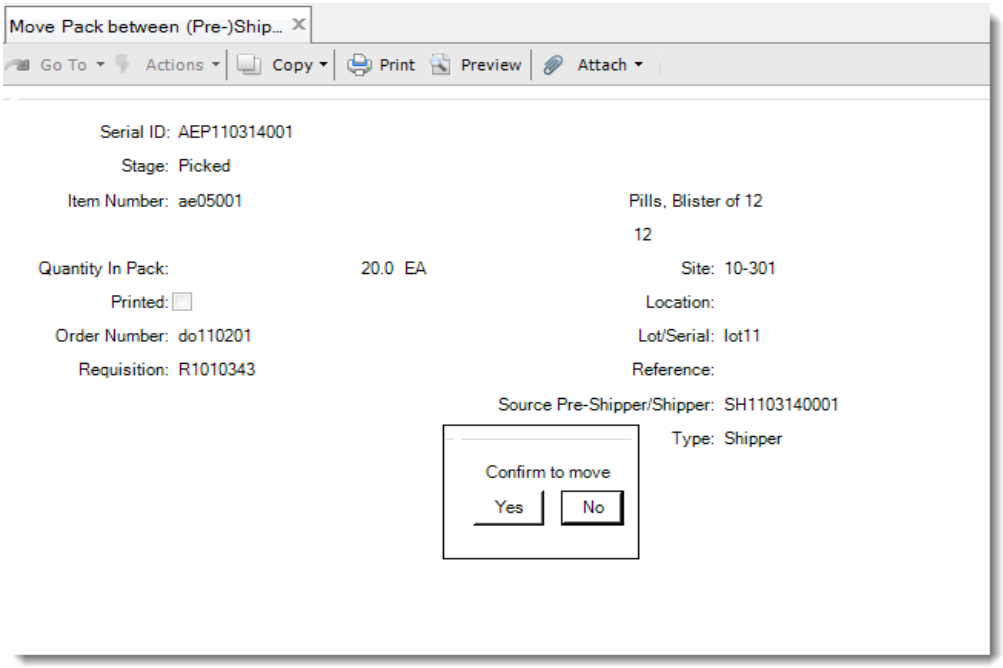
2. In the Serial ID field, specify the serial ID of a picked pack or loose item associated with the source pre-shipper or shipper.

   Note If you specify a serial ID that is already picked for the destination pre-shipper or shipper, the system displays a warning message.

   The system then displays information about the pack, linked DO request, and source pre-shipper/shipper, and prompts you to confirm the move.

3. Click Yes to confirm the transfer of the picked inventory from the source DO pre-shipper/shipper to the destination DO pre-shipper/shipper.

Fig. 4.64
Move Pack between (Pre-)Shippers (12.9.12)



Ship-From ID. Specify the same Ship-From as the Ship-From of the original pre-shipper or shipper.

Pre-Shipper/Shipper. Specify either a pre-shipper or a shipper. The default is pre-shipper.

Number. Specify an existing pre-shipper or shipper ID that uniquely identifies a shipper record, or leave it blank to let the system automatically generate a pre-shipper or shipper number.

Ship-to ID. This field is display only when you enter the pre-shipper or shipper number. It shows the ship-to site to which this pre-shipper/shipper is delivered.

If you leave the Number field blank, specify the same ship-to as the ship-to of the original pre-shipper or shipper.

Serial ID. Specify the serial ID of a picked master pack or loose item that you want to move from the source pre-shipper or shipper to the specified destination pre-shipper or shipper.

Confirming DO Pre-Shipper/Shipper

Use the QAD EE function DO Pre-Shipper/Shipper Confirm to confirm the DO pre-shipper/shipper.

When you confirm a pre-shipper, for all serial IDs linked with the pre-shipper, the system links them with the converted shipper.

When the pre-shipper/shipper has a picked section, the system automatically removes all pending pick lines. So when you physically pick items, make sure that the entire pre-shipper/shipper contents are physically picked.

When the pre-shipper/shipper does not have a picked section, the system processes shipments based on pending pick lines to support customers without Serialization.

When the system removes pending pick lines, it also removes all linked detail allocation.

After you confirm the DO pre-shipper/shipper, the linked serial IDs become active in the in-transit site and location.

When the serial ID links with an SO only in the same domain, the system maintains the link. When the setup data does not exist in the in-transit domain, such as item number or pack code, the system displays an error message.

Regardless of whether the ship-from and in-transit sites are in the same domain, the system creates two serial history records. One transaction is PCK-ISS, which is for a pack serial ID transaction, while SER-ISS is for the item serial ID transaction. The other transaction is PCK-RCT, which is for a pack serial ID; SER-RCT is for an item serial ID.

After you confirm a DO pre-shipper/shipper, the following functions display information according to shipping history:

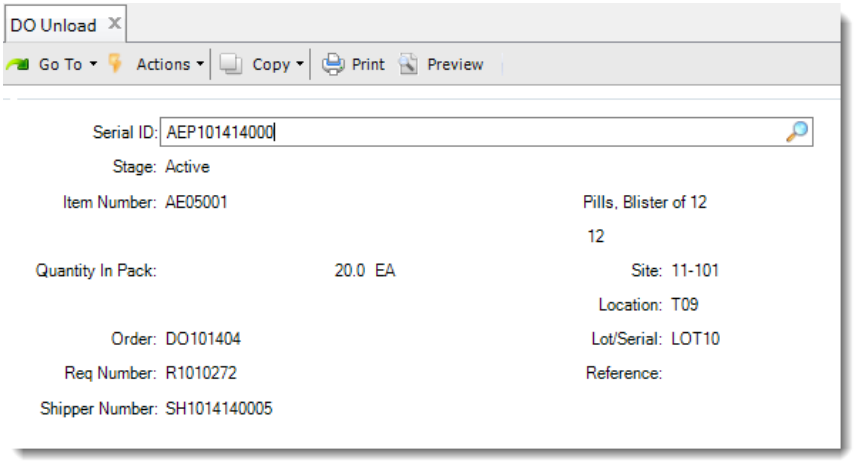
- DO Pre-Shipper/Shipper Inquiry
- DO Pre-Shipper/Shipper Report
- DO Pre-Shipper/Shipper Print
- Pre-Shipper/Shipper Truck Load browse collection
- Pre-Shipper/Shipper drill-down browse of Distribution Order Browse

DO Unloading

After the DO pre-shipper/shipper is confirmed, DO goods are shipped to the In-Transit site. When vehicles arrive at the receiving site, material handlers unload the DO goods from the vehicles. Using DO Unload (12.9.15), you can let the system identify which master packs or loose serialized items have been unloaded from the truck. Non-serialized loose inventory cannot be unloaded.

Multiple users can use this function at the same time.

Fig. 4.65
DO Unload (12.9.15)



Serial ID. Enter the serial ID of a master pack or loose item to unload from the truck.

After you enter the serial ID of a master pack or loose serialized item to unload from the truck, you can see the following information displayed:

- The stage of the serial ID
- The item and its description, quantity in pack, and UM if the serial ID is linked with a single item
- Site and location
- Lot/serial and reference if the serial ID is linked with a single lot
- DO request number if the serial ID is linked with a single DO request
- DO shipper number

After the serial ID is unloaded, if you enter it again in the serial ID field, the system prompts you to reverse the unloading. If you respond with Yes, the unloading is reversed.

Viewing Serial IDs in Transit

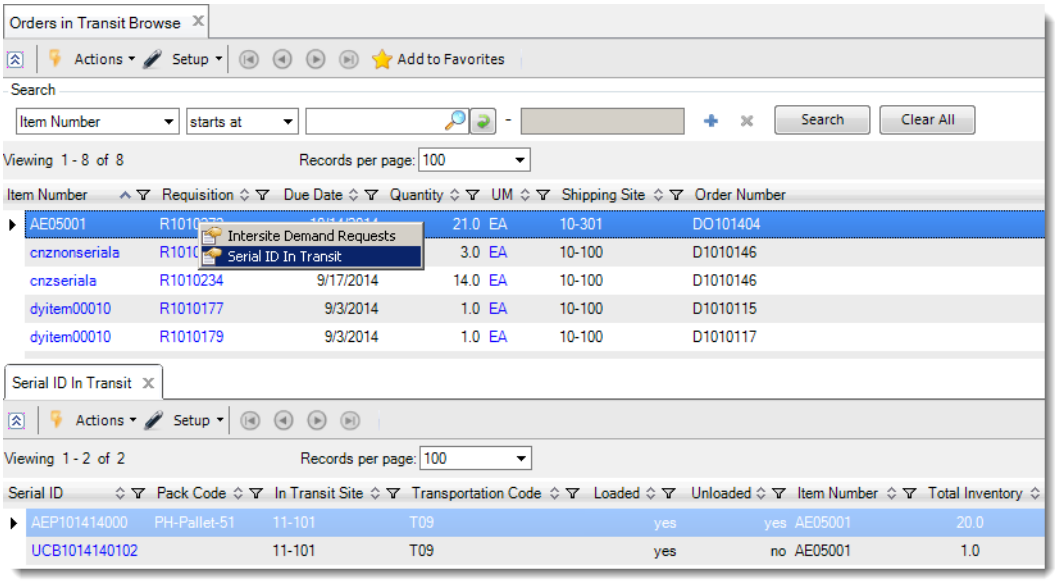
In the domain where the In-Transit site belongs, use the Orders in Transit Browse to view the serial IDs of master packs and loose serialized items linked with an in-transit DO request.

Note Returning serial IDs are not considered in this browse.

In Orders in Transit Browse, right-click the requisition number and select Serial ID in Transit to open the drill-down browse. You can view the following information of the linked serial IDs:

- Pack code
- In-transit site, transportation code, lot/serial, and reference
- Whether the serial ID is recorded as loaded into the truck in the supply site
- Whether the serial ID is recorded as unloaded from the truck in the demand site
- The item number if the serial ID is linked with a single item
- The total inventory linked with the serial ID and the unit of measure
- The DO request if the serial ID is linked with a single DO request
- The DO Shipper

Fig. 4.66
Serial IDs in Transit



Right-click the serial ID and you can also see the following drill-down browses:

- Order Information
- View Downstream Pack
- View Shipping History

Loose Items

Loose items are items that are not in a pack. Loose items can be serialized, and when they are, then the item serial ID is needed but not aggregated on any pack serial ID. Loose items can be non-serialized too, and when they are, no item serial ID is needed.

You can also pack non-serialized loose items into a previously picked pack that is linked with the pre-shipper/shipper in Pre-Shipper/Shipper Pack Build. The item number can be different from the item already in the picked pack, so that the same unit pack can hold multiple items.

You can use Serialized Inventory Report (3.17.22.1) to view loose items in serialization inventory. You can filter the report by serial ID; when you do, the system lists the item and serial information.

The following topics discuss the functions you can perform with loose items and the programs you use.

Creating Item Serial IDs for Loose Items

You can create serial IDs for loose items in a pack, using the following programs:

- Pack Create by Pack Structure (3.17.1)

  You can create item serial IDs using this program. You adjust the quantity of the unit pack, but not the item serialization level, to add the loose items. When the item inside the pack is serial-controlled; that is, serialization for the item is enforced in Serialization Control (3.17.24):

  - The system displays the item serial IDs in the Serial List.

- You can also create item serial IDs with the pack serial IDs

Note Pack Create by PO/Shipper also supports loose items that are serial controlled.

- Pack Create by Pack Code (3.17.2)

  Use this program to create item serial IDs by leaving the Pack Code field blank. When the loose item that is contained in the pack is mandatorily serial controlled, you leave Pack Code blank then enter the number of IDs to create for the items in the Pack Quantity field.

- Pack Build (3.17.3)

  Use this program to build serialized inventory—item Serial IDs—into serialized packs. When building serialized items into a unit pack, you add each loose item into the pack by entering the serial ID in the Item Serial ID field in the Inventory Data frame. You can use the lookup browse to view a list of loose items. The system performs an automatic transfer when the loose item is located in a different location.

  When the unit pack is booked for a specific sales order, the system requires that the newly added item serial ID is also booked for the same master sales order.

  When you build non-serialized items into a unit pack, the Item Serial ID field is disabled. You enter the item number, quantity, and lot/reference numbers when Item Serial ID is disabled.

  Note When you attempt to use Pack Commission to build serial IDs manually for loose items that are serially controlled, the system displays a message, informing you to use Pack Build.

Receiving Loose Items into Active Unit Packs

Sometimes, to avoid creating additional packs or receiving standalone items, you want to receive loose items into existing received packs. All of the following functions allow you to receive loose items into an active unit pack, or into a unit pack that is aggregated on an active master pack:

- Pack Receipt Unplanned
- Pack Receipt by WO
- Pack Receipt by Production Line

In the Inventory Data frame, enter the quantity. The entered quantity is original quantity in pack plus the quantity to receive into this unit pack. After you enter the quantity, the system increases the quantity in pack immediately.

Note If you set Build Pallet to Yes and leave parent serial ID blank, after you specify a unit pack serial ID and enter a valid quantity, the system does not generate a parent pack.

When receiving serialized items into a unit pack, if the unit pack is booked for an SO, make sure that the item serial ID is booked for the same master SO line.

Packing Non-Serialized Loose Items into a Picked Pack

Occasionally, you may need to pack more non-serialized loose inventory into a pack that was previously picked for a pre-shipper. By adding to an already picked pack that holds either serialized inventory or non-serialized inventory, you eliminate the need to build more packs for additional content.

Unit pack and assembly pack are supported.

You use Pre-Shipper/Shipper Pack Build (7.8.2) to enter the loose items to the pack attached to a pre-shipper/shipper.

When you enter a picked pack, and the system prompts you to remove it from the pre-shipper/shipper, specify No to pack more items to the picked pack. You enter the items to be added in the Child Data frame. For non-serialized loose inventory, leave the Child Data frame's Serial ID field blank; then enter item, site, location, lot/serial, and reference.

When the parent pack is booked for a sales order line, the non-serialized loose inventory must be the same as the item in the parent pack.

For non-serialized loose inventory, the system defaults the SO (or customer scheduled) order line when the child serial ID is blank and the system verifies that the pending picked inventory is in the pre-shipper/shipper, and matches the item. The SO line must:

- Have the same ship-from/ship-to as the pre-shipper/shipper
- Have the same item as the entered loose item
- Be effective and not closed

The system verifies that there is enough inventory for the entered item, quantity, and validates other entered data.

The system records pick information in detailed tables at the picked-pack levels.

When the site or location of the loose inventory is not the same as that of the parent serial, the system:

- Displays a warning
- Transfers the loose inventory to the site and location of parent pack
- Validates the single item/single lot option of the pack

Packing Picked or Active Serialized Loose Items to Picked Pack

To keep from building more packs for picked serialized items, you can pack the following into a pack that was already started (picked) for a pre-shipper:

- Picked serialized loose item
- Active serialized loose items

The picked pack can hold serialized or non-serialized items. Both unit packs and assembly packs are supported.

You use Pre-Shipper/Shipper Pack Build (7.8.2) to enter the picked or active serialized loose items to the pack attached to a pre-shipper/shipper. When you enter a picked pack, the system prompts you to remove it from the pre-shipper/shipper. Specify No to pack more items to the picked pack.

You enter the serialized picked or active loose items in the Child Data frame in the Child Serial ID field. The following conditions are required to exist:

- The stage is picked or active for the item serial ID.
- When the parent serial ID is booked for a master SO (or customer scheduled order) line, the child serial ID is booked for the same SO line.
- When the parent serial ID is not booked, the child serial ID cannot be booked.

- The SO line is not closed, and must have the same ship-from/ship-to with pre-shipper/shipper and the same item as the item for which you enter a serial ID.

For active item serial IDs, the system defaults the SO line based on the following rule:

- When the child serial ID is already booked for an SO line and the SO line ship-from/ship-to matches the pre-shipper/shipper, the system displays the booked SO line.
- When the child serial ID is already booked for an SO line, but the ship-from/ship-to does not match the pre-shipper/shipper, the system checks other SO lines for the same sold-to, purchase order, or item for the master SO line. When one SO line matches with the pre-shipper/shipper, the system displays the matched SO line.
- When the child serial ID is not booked for any SO line, the system checks whether there are pending pick lines in the pre-shipper/shipper. When pending pick lines exist, the system finds the first SO line with the same item as the entered serial ID and displays the SO line. The system defaults the quantity to pack to 1.

You add picked or active item serial IDs to the parent pack. The system records pack data in Pack Build Serial History. When the site/location of the child serial ID is not the same as the site/location of the parent serial ID, the system:

- Displays a warning
- Transfers the child serial ID to the site and location of the parent pack
- Considers the transferred item serial IDs with print data when you specify to print labels
- Validates the single item/single lot option of the pack and changes allocation detail
- Records picking information at the content level

To determine how many more items are needed, you can view the currently packed quantity of loose items that you already picked in the same parent.

Packing Non-Serialized Loose Items into a New Pack

You can pack non-serialized loose items into a newly created pack. To do this task, you can:

- Enter a booked serial ID.
- Enter a new existing serial ID.
- Enter a serial ID that does not exist.
- Leave serial ID blank.

When you enter a booked, blank, or nonexistent serial ID, you are required to enter the pack code. When you enter a nonexistent serial ID, the system validates the number range by site, location, lot/serial, reference, and other data.

For non-serialized loose inventory, you leave the Child Serial ID field blank; then, enter item, site, location, lot/serial, and reference data. When the parent pack is booked, the system displays the item for which the parent pack is booked. You cannot edit the item number. The system defaults the SO line when there is pending picked inventory in the pre-shipper/shipper and matching items.

When you leave the parent serial ID blank and the SO (or customer scheduled order) line does not have a booked serial ID, the system generates a serial ID based on:

- Site (ship-from)

- Address (ship-to)
- Transaction type (ISS-SO)
- Item (Blank) and pack code

When the parent serial ID is blank and the sales order line has a booked serial ID, the system obtains the serial ID from a booked pool of serial IDs. The system validates that the SO line has the same ship-from and ship-to as the pre-shipper/shipper, and the same item as the entered item. The system validates sufficient inventory and displays a warning when not based on your over-issue settings. The system records picking information at the unit pack level and builds loose inventory to the unit pack.

Picking Loose Inventory without a Package

To pack loose inventory without a package, leave the Parent Serial and Pack Code fields blank in Pre-Shipper/Shipper Pack Build.

To pick non-serialized loose inventory, leave the Child Serial ID field blank; then, enter other data such as the item, site, location, lot, serial, and reference data. The system defaults the SO (or customer scheduled order) line after it checks for pending pick inventory in the pre-shipper/shipper and finds that existing inventory exists that matches the item. The sales order line must have the same ship-from/ship-to as the pre-shipper/shipper, the same item as the entered item, and be active.

The system also verifies that there is enough inventory based on the entered item, site, location, lot/serial, reference, and quantity, and displays a warning or error message, based on your over-issue settings. The system records the loose inventory level and changes the allocation detail.

Unpicking Non-Serialized Loose Inventory

You can use Pre-Shipper/Shipper Pack Build to unpick inventory that is not serialized from a pack.

To perform this task, take the following steps:

1. In the Parent Pack frame, leave the Serial ID and Pack Code fields blank.
2. In the Child Pack frame, leave the serial ID blank, then enter the item, site, location, and lot/reference.
3. To remove non-serialized loose inventory, specify the SO (or customer scheduled order) line, then enter a negative quantity in the Qty to Pack field.

   Note The quantity cannot be greater than the picked quantity in Qty to Pack for the SO line.

   The system validates the quantity you entered.

When you press Cancel or F4 on the Sales Order field, the system displays the quantity in the Child Pack frame according to the total quantity entered for the SO lines.

The system removes the inventory specified from the shipper and removes picking information. When the pack quantity is 0 (zero), the system changes the pack status to decommed.

Removing Serialized Loose Items from a Pack

You can remove loose items from a pack once you enter an item serial ID for them. Use the following programs to remove them:

- Pack Remove (3.17.5)

  Use this program to remove serialized items from a unit pack. In the Item Serial ID field in the Inventory Data frame, enter the serial ID of the item contained in the unit pack to remove. Use the arrow keys to navigate through serial IDs currently in the unit pack. The system removes the item serial ID you entered. The Quantity field is display only and will always be 1. After removal, the system decreases the quantity of the unit pack by one and sets the stage of the selected item serial ID to Active.

  When you remove non-serialized items from a unit pack, the system disables the Item Serial ID field.

- Pack Decommission (3.17.6)

  Use this program to remove all item serial IDs from a specific unit pack. When you decommission a unit pack with serialized items, the system removes all item serial IDs from the unit pack, changes the stage of the unit pack to Decommed, and changes the stage of the item serial ID to Active.

Loose Serialized Items in Production

You can still process loose items throughout production using Serialization programs. The following topics describe the inventory functions available and the programs to use.

Transferring Loose Serialized Items

- Pack Transfer (3.17.7), Pack Transfer with L/S Change (3.17.8), and Pack Transfer–Multi Pack (3.17.9)

  All of these functions allow you to transfer loose serialized items, in addition to unit packs and assembly packs. Pack Transfer with L/S Change also allows you to change the lot/serial and reference of the loose serialized items. Pack Transfer–Multi Pack lets you select a range of inventory detail records to transfer.

Receiving Loose Serialized Items

- Pack Receipt Unplanned (3.17.13), Pack Receipt by WO (16.5.3), Pack Receipt by Production Line (18.22.7.2), and Pending PO Shipper Unload (5.13.12.13)

  All of these functions allow you to receive loose serialized items.

  For Pack Receipt Unplanned, Pack Receipt by WO, and Pack Receipt by Production Line, set the Generate Pack Serial field to No. When prompted to build pallets, select No. Leave the Serial ID field blank in the Unit Pack frame. Then specify a BOP code, and enter the inventory data. Select No when prompted to create packs. The system creates item serial IDs. Click Back to receive loose serialized items.

  When using Pending PO Shipper Unload, leave the parent and child serial IDs blank. And then in the Inventory Data frame, enter the inventory information to receive loose serialized items.

Issued Items

- Pack Issue Unplanned (3.17.14)

  Use this program to issue loose serialized items from a unit pack. You issue loose serialized item by entering an item serial ID in the Serial field in the first frame.

  In the Inventory Data frame, enter the serialized item in the Item Serial ID field. You can use the lookup browse to display a list of serialized items contained in the unit pack. Use the arrow keys to navigate through serial IDs already in the unit pack.

  You can issue each item from a unit pack by scanning or entering the item serial ID. The system retrieves and displays inventory data. You can also leave the field blank to issue all contents. The issue quantity is the current pack quantity.

Picking/Packing Loose Items

You can use the following program to pick loose items:

- Pre-Shipper/Shipper Picking (7.8.1)

  Use this program to pick loose items by serial ID. You specify a serial ID for loose items in the Serial ID field in Pre-Shipper/Shipper Picking. When you do, the system adds it to the selected pre-shipper or shipper.

  When there are booked serial IDs for the sales order, the system verifies that the entered item serial ID is also booked for the same master sales order.

You can use the following program to pack loose items:

- Pre-Shipper/Shipper Pack Build (7.8.2)

  Use this program to pack loose serialized items into serialized packs.

  You can enter IDs for loose serialized items in the Serial field of the Child Pack frame and pack them into a new unit pack. The system automatically transfers loose items when they are in different locations.

  When there are booked serial IDs for the sales order, the system verifies that the entered item serial ID is also booked for the same master sales order.

Importing/Exporting Data

You can import data from third-party products for use with Serialization functions or export Serialization data to third-party products.

Importing Data

You import from a QXtend QDoc. When you do, the system updates the Serialization data. The following table summarizes import capabilities:

Table 4.8 Import Data

Third Party	Data Imported	Description of Import
Covectra/ SAP ALL	Import data for use with Serial Booking by SO (or customer scheduled order)	The system creates booking information imported from this vendor for the Serial Booking by SO number and line. You use QXtend to interface with this vendor's data with the API for serial bookings.
Systect	Import data for use with Pack Receipt by WO	Lets you import all aggregated serial numbers of a pallet during the pack receipt by WO process. The system includes the serial hierarchy with serial information when importing. The system processes pack receipt by WOs after it imports the serial hierarchy and activates the master serial IDs.

Component Serial Maintenance

Use Component Serial Maintenance (16.15.25) to maintain component serial IDs for imported parent serial IDs. You can also delete component serial IDs.

Make sure that the parent serial ID is for an item, not a pack, and is in the Pending, Active, Picked, Consumed, Aggregated, or Component stage. Also make sure that the master pack serial IDs are in the Pending, Active, Picked, or New stage.

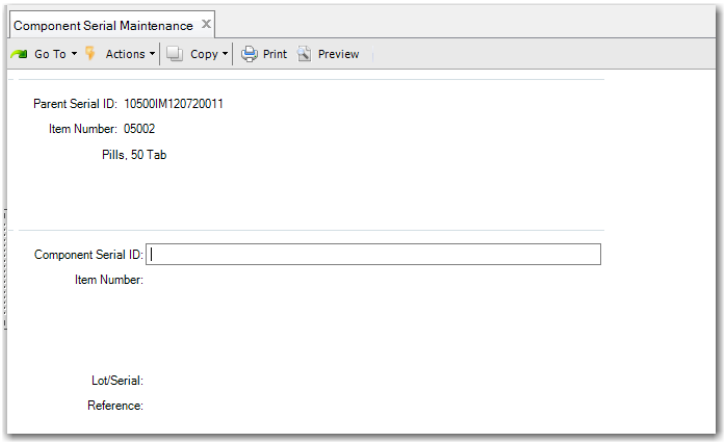
The system validates the master serial ID and prompts you to enter a component serial ID. When the component serial ID is new to the system, the system creates the serial ID and sets its stage to New.

When you enter an existing serial ID, make sure that its stage is Booked, Decommed, or Consumed. When the serial stage is Consumed, you can leave the item number, lot/serial, and reference fields blank as the system obtains them from serial master records.

When the component serial stage is Booked, make sure that it is booked to the same WO or SO (or customer scheduled order) line as the parent serial ID or the parent master-pack of the parent.

To delete a component serial ID, press F5 or the Delete key. The system validates the link with a parent serial ID, then decommissions the component serial ID.

Fig. 4.67
Component Serial Maintenance (16.15.25)



Parent Serial ID. Enter or scan the parent serial ID. The parent serial ID has to be an item; it cannot be a pack.

The parent serial ID stage is required to be Pending, Active, Picked, Consumed, Aggregated, or Component.

Item Number. The item number for the parent serial ID.

Component Serial ID. Enter the component serial ID. When the serial ID does not exist, the system creates it and sets the stage to New. The system updates component serial ID master records with the serial ID.

Exporting Data

You can export data to third-party products using Serial Usage Export and Serial Booking by WO. You use QXtend QDocs to export the data. When you do, the system updates the Serialization data. The following table summarizes export capabilities:

Table 4.9 Import Data

Third Party	Data Imported	Description of Import
Covectra/ SAP ALL	Export Unused/Consumed Serial numbers	Lets you export unused and consumed serial IDs when the SO (or customer scheduled order) is completely shipped and the SO shipper is confirmed using Serial Usage Export. See “Serial Usage Export” on page 197.
Systect	Serial Booking by WO	Lets you export all serial numbers that the system booked for a specific WO. The system triggers the outbound QDoc using QXO when you release the WO. The QDoc includes serial IDs. The QDoc includes a complete list of all serial numbers booked for the WO, not ranges.

Serial Usage Export

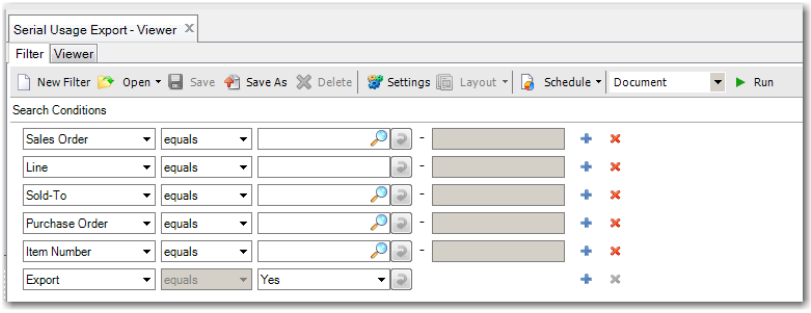
Use Serial Usage Export (3.17.20) to export unused and consumed serial IDs when the SO (or customer scheduled order) is completely shipped and the SO shipper is confirmed. You can export when you book a range of serial IDs for a particular SO line after you close the SO, or the system fulfills the order line.

In the .NET UI, specify a range of sales orders and lines, sold-to, purchase orders, and item numbers.

You run the Serial Usage Export function to trigger outbound QDocs that notify the customer which serial IDs are used or not and to view the usage report before you export the outbound QDoc.

Set Export to Yes to generate an outbound QDoc. The system generates a QDoc that contains used or unused serial data along with a report. You can generate a report without creating the QDoc by setting Export to No.

Fig. 4.68
Serial Usage Export (3.17.20)

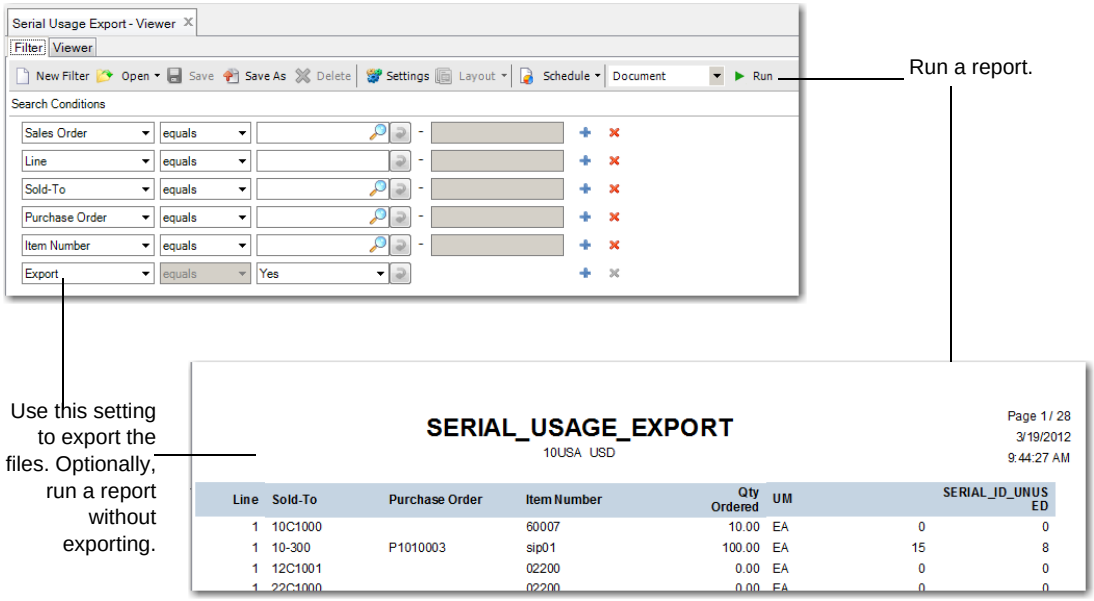


Exporting Serial IDs

You can use Serial Usage Export (.NET UI only) to export unused and consumed serial numbers when the SO is completely shipped or the SO shipper is confirmed. So, if you booked a range of serial IDs for a particular SO line, after the sales order is closed or the order line requirement is fulfilled completely, you can manually run Serial Usage Export to trigger an outbound QXtend QDoc that tells the customer which serial IDs are in use or not in use. You can view the usage report before you export.

To export the serial ID data, provide a range of SO, line, sold-to, PO, or item numbers, then use the Export setting to compile the serial ID data, create the QDoc, and create a report to export. When Export is Yes, the system exports the QDoc and the report. When Export is No, you can run the report without exporting and view the serial IDs selected by your criteria before exporting them.

Fig. 4.69
Serial Usage Export



Printing Labels

When integrated with QAD Label Printing Service module, Serialization lets you manage label printing during processing of serialized goods.

Serialization lets you:

- Assign label formats by packaging type in the BOP.
- Print labels in batch before, after, or during inventory transactions.
- Specify label print formats used in the industry or for a specific printer type.

You can print while processing many system transactions. The system prompts you to print labels when you:

- Create and build new or booked assembly pack.
- Create packs before inventory is received.
- Issue a serialized pack unplanned.
- Create packs based on:
  - Work orders
  - Item, site, production line
  - PO or PO shipper
- Receive packs for production lines or work orders.
- Confirm pending packs for backflush receipt.
- Pack picked packs for a pre-shipper or shipper.

When you do not print during the transactions, you can print labels later using print label functions within the Label Print Menu (3.3). Serialization provides the following print programs within the Label Print Setup Menu.

See the Label Printing Service documentation provided with the software for related label printing information.

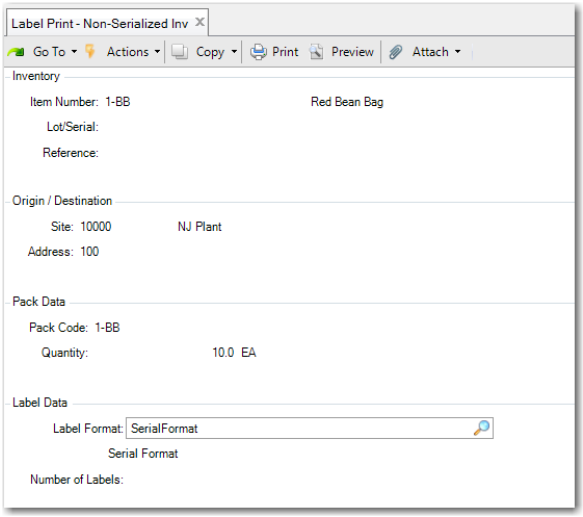
Label Print - Non-Serialized Inventory

Use Label Print - Non-Serialized Inventory (3.3.1) to print labels for packs or items that are not serial controlled. You enter all values to print. You can also use this function to print informative labels that are not created for a pack or item.

You enter the item, lot/serial, and reference, then enter data in the Origin/Destination frame. In the Pack Data frame, enter the pack code and the quantity in the pack data. Enter the format in the Label Format frame and the number of labels to print. Once you enter the quantity to print, select the printer in the Output field.

Once you enter the values, you can select the label format, then choose to print the labels.

Fig. 4.70
Label Print - Non-Serialized Inventory (3.3.1)



Item. Enter the item number for which the system prints labels or leave blank. When site, pack code, item, lot, reference, and quantity are blank, the system displays a warning before printing.

Lot/Serial. Enter the lot/serial of the item or leave blank. When site, pack code, item, lot, reference, and quantity are blank, the system displays a warning before printing.

Reference. Enter the reference of the item or leave blank. When site, pack code, item, lot, reference, and quantity are blank, the system displays a warning before printing.

Site. Enter the site in which the goods are placed or leave blank. When site, pack code, item, lot, reference, and quantity are blank, the system displays a warning before printing.

Address. Enter the address to which goods ship, a site for distribution orders, or a supplier for purchasing.

Pack Code. Enter the pack code for which the system prints labels or leave blank. When site, pack code, item, lot, reference, and quantity are blank, the system displays a warning before printing.

Quantity. Indicate how many items are held in the pack or leave blank. When site, pack code, item, lot, reference, and quantity are blank, the system displays a warning before printing.

Label format. Select the label format the system uses when printing labels. The system locates the default label format, based on site, pack code, and item when defined in Pack Label Format Maintenance.

Number of Labels. Indicate how many labels are printed in this transaction.

Label Print by Serial ID

Use Label Print by Serial ID (3.3.2) to print labels for packs that are serial controlled independent from transactions. The system prints serial information.

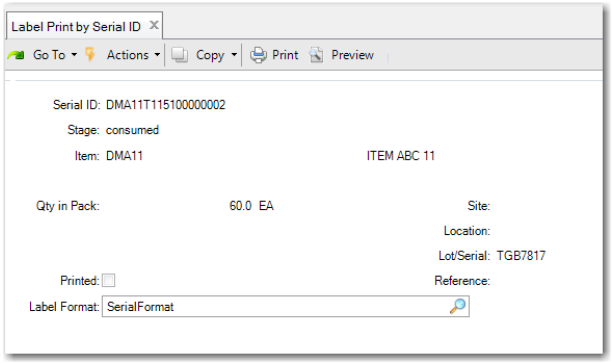
Enter the serial ID. The system displays the stage, item, quantity, site, location, lot/serial, and reference. In the following situations, values of the Qty in Pack and UM fields are displayed as blank:

- The specified serial ID is a unit pack that contains items of multiple combinations of item, lot, and reference.
- The specified serial ID is an assembly pack that contains an item not in any unit pack.
- The specified serial ID is an assembly pack that contains a unit packs holding items of multiple combinations of item, lot, and reference.

Specify the label format, then the output printer.

Note Third-party application suppliers provide label formats for QAD EE use; you set up the file name in Label Setup functions.

Fig. 4.71
Label Print by Serial ID (3.3.2)



Note Some fields are described in “Label Print - Non-Serialized Inventory” on page 199.

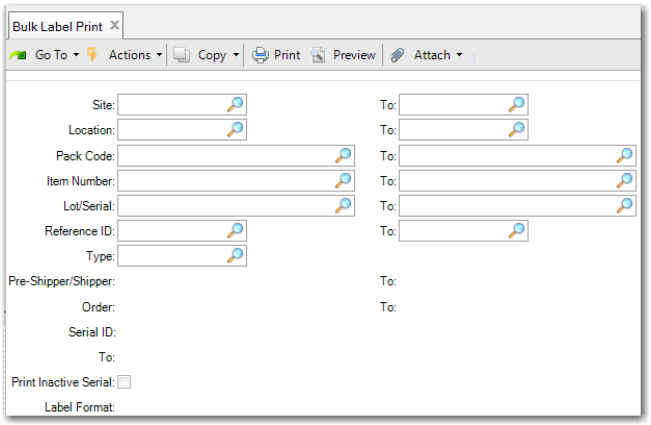
Serial ID. Enter the serial ID for the pack to print/reprint a label.

Label format. Specify the label format the system uses when printing.

Bulk Label Print

Use Bulk Label Print (3.3.3) to print a group of labels for serial-controlled packs or items. The system prints the latest serial information. You can select serial IDs to print by range of site, location, pack code, item number, lot/serial, reference, order, and pre-shipper/shipper.

Fig. 4.72
Bulk Label Print (3.3.3)



Note Other fields, such as item, lot/serial and reference, that are commonly used in QAD EE programs are not described here; only fields unique within Serialization or that require data explicitly for Serialization functions are described.

Site/To. Enter a site range for which the goods are placed or leave blank.

Location/To. Enter a location range for which the goods are placed or leave blank.

Pack Code/To. Enter a range of pack codes for this function to consider.

Type. Enter the order type (PO or SO) for this function to consider. When you specify the type, you can enter the order.

Order/To. Specify the range of order numbers.

Pre-Shipper/Shipper/To. Enter a range of pre-shippers or shippers for this function to consider or leave blank to consider all pre-shippers or shippers.

Serial ID/To. Enter a range of serial IDs to print.

Print Inactive Serial. Specify Yes to print labels for inactive serial IDs.

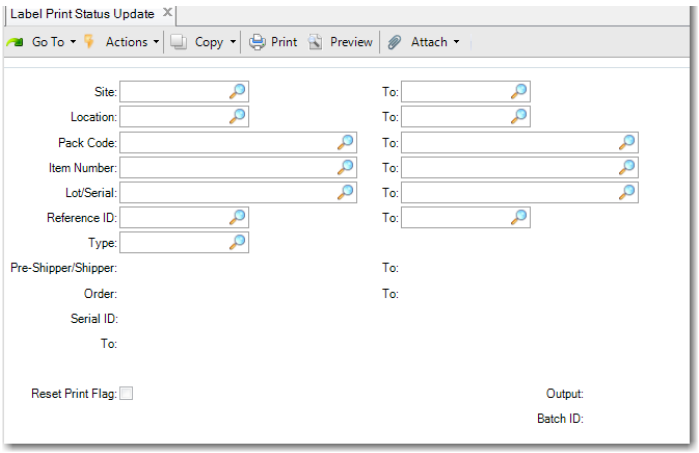
Label Print Status Update

Use Label Print Status Update (3.3.4) to view or update printing status of serial IDs.

You specify item, site, location, lot/serial, reference, pack code, and order. Then optionally enter the pre-shipper or shipper and the serial ID ranges.

Set Reset Print Flag to Yes to reset the print flag of the serial IDs in the range so that the inventory data of the serial—such as item, site, lot/serial—is editable again. If the field is set to No, you can only view whether the serial ID is printed.

Fig. 4.73
Label Print Status Update (3.3.4)



Other fields are described under other program descriptions.

Reporting Data

You can use Serialization browse collections to track and trace orders, view serialized IDs, view where packs are located that contain a particular item, or view all packs in a particular inventory unit. The following topics organize the browse and browse collections by:

- Tracking and Tracing Order Data
- Tracking and Tracing Inventory Data
- Tracking and Tracing Shipping Data

Tracking and Tracing Order Data

Use any of the following browses to track and trace serial ID data by orders:

- Serial ID by Sales Order

  Use this browse to view all serial IDs or booked serial IDs linked with an SO. Right-click on the Sales Order field to select:

  - Pre-Shipper/Shipper by Order Browse to view the shipper or pre-shipper information of this sales order.
  - Master Serial ID Browse to view all the top-level packs that hold the goods for this order.
  - Reserved Serial ID Browse to view all the serial IDs created for the order but not currently in use.
  - Serial ID Summary to view the serial ID summary data for the order.
- Customer Scheduled Orders Browse

Use this browse to view all serial IDs or booked serial IDs linked with a customer scheduled order. Right-click on the Sales Order field to select the same supporting browses as for Serial ID by Sales Order.

- Pre-Shipper/Shipper by Order Browse

  View shipper data by shipper ID, order, item, ship-from codes, or ship-to codes. Right-click on the Shipper ID to select:

  - Master Serial ID Browse to view all the top-level packs that hold the goods for this shipper.
  - Reserved Serial ID Browse to view all the Serial IDs created for the shipper/packing slip but not currently in use.
  - View Serial ID Summary to view the serial ID summary data for the shipper.
- Work Order Browse

  Use the Work Order Browse to view serial IDs and booked serial IDs of the selected discrete WO or repetitive order. Right-click on the ID field to select:

  - Master Serial ID Browse to view all the top-level packs that hold the goods for this order.
  - Reserved Serial ID Browse to view all the serial IDs created for the order but not currently in use.
  - View Serial ID Summary to view the serial ID summary data for the order.

  The system supports paging on all of the above three browses.
- Cumulative Order Browse

  Use this browse to view serial IDs and booked serial IDs of the selected cumulative order. Right-click on Production Line to select the same supporting browses as those browses for Work Order Browse.
- Serial ID by Purchasing Order

  Lets you view all the serial IDs linked with the PO, supplier scheduled order, or PO shipper.
- Purchase Order Browse

  Use this existing QAD EE browse to view serial ID data for a purchase order. Right-click on the Purchase Order field to view the same supporting browses as those browses in Serial ID by Sales Order.
- Supplier Schedule Orders Browse

  Lets you view supplier schedule data, including supplier schedule data by order, ship-from, ship-to and item. Use this browse to view how many items were previously received for the order. Right-click on the Purchase Order field to view the same supporting browses as those browses in Serial ID by Sales Order.

Tracking and Tracing Inventory Data

Use the following browses and collections to view Serialization data related to inventory:

- Inventory Detail by Site

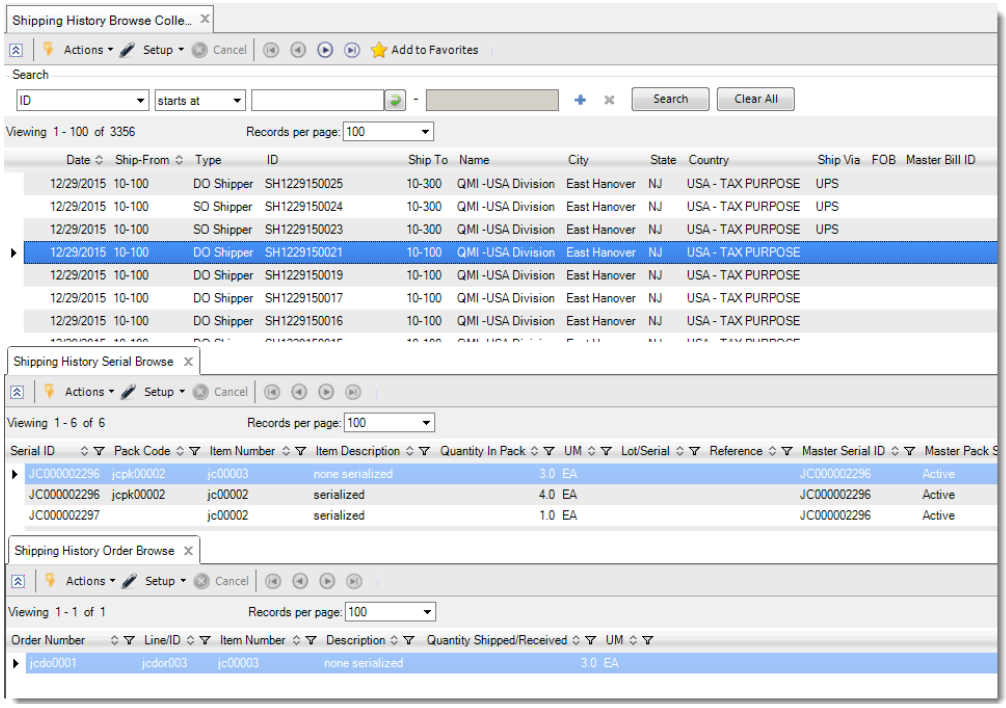
  Use this browse to view all the inventory information by site and location, master pack serial IDs physically located in the selected site/location, or detail information for the master pack. Right-click on the Master Serial Id field to view serial hierarchy, downstream serial, serial history, or order information. This browse provides a link to:

- Serial ID Browse
- Serial History Browse and Transaction History Browse
- Downstream Pack and Upstream Pack Browse
- Order Information Browse
- Transactions by Order or Item Browses

Tracking and Tracing Shipping Data

You can use the Shipping History browse collection to view shipping data for serialized items. The top browse shows the date; ship-from; type of shipper (PO Shipper, SO Shipper, and DO Shipper); shipper ID; and other related shipping data. Supporting browses, which reflect data based on your selection in the top browse, show shipping history based on serial ID data and shipping history based on order data.

Fig. 4.74
Shipping History Browse Collection



You can view all serial numbers that shipped out in a shipment related to an invoice in:

- Pre-Shipper/Shipper Confirm (7.9.5): Print and view serial IDs in the Item Serial ID Shipped section when you set Print Invoice to Yes.

  You can use the Shipping History browse collection to view all packs and item serial IDs for a return-from-customer shipper, too. When you return inventory items, the system displays the entire hierarchy from master pack to item serial IDs as well as picking information and kit components serial IDs; however, the system does not record or display regular component serial IDs. You can also view the data in the Shipping History browse collection.
- Invoice Post and Print (7.13.4) or Invoice Print or Reprint (7.13.12): Print and view all item serial numbers in the Lot/Serial Numbers Shipped section when Print Lot/Serial Numbers Shipped is set to Yes.

Note Using these programs to view serial IDs, when you ship a unit pack holding serialized item to multiple sales order lines, the system displays all item serial IDs of the pack for each sales order line. When the item is a non-serialized item, the system does not print item serial IDs.

- .NET UI Shipping History Browse Collection: Display shipping history for SO and DO shipping, PO receiving and return, and SO (or customer scheduled order) returns.
- .NET UI Item Serial ID supporting browse in the Invoice History browse collection: View all serial numbers in a shipment related to the invoice. The Item Serial ID browse displays all item serial IDs shipped based on the invoice and also includes the shipper and order ID, line, item number, UM, lot/serial number, and reference.

Note When you ship a unit pack holding serialized item for multiple order lines, the browse displays all item serial IDs in the box for each SO line.

Appendix A

Application Programming Interface (API)

This appendix contains a list of APIs for Serialization.

Introduces the APIs and references other QAD tools/documents to help you load API data.

API Introduction

This appendix provides a list of APIs for the products within Serialization.

You use QXtend or QAD Excelerator to load API data. When you use QAD Excelerator, the Excelerator macros reconfigure the MS Excel spreadsheet UI to include QAD Excelerator features to add, modify, or reconfigure API data before you upload it to QAD EE. Refer to *User Guide: QAD QXend Excelerator,* version 1.3, document number 70-3191-1.3, dated July 2013.

Table A.1
API List for Serialization

API Name	API Name
BackflushWOByPack	MaintainPackTransfer
BookSalesOrderSerial	MaintainPackTransferLot
BookWOSerial	MaintainPOShipperReceipt
ChangePackStage	MaintainPOShipperUnloading
CopyItemMaster	MaintainSerialRange
CorrectRepReceiptPack	MaintainTruckLoad
CorrectWOReceiptByPack	MaintainWeightUpdate
CountPackTag	MergePack
CreatePack	MoveSOShipper
CreatePackByPL	PackDistributeOrder
CreatePackByPO	PackSalesOrder
CreatePackByWO	PickDistributeOrder
CycleCountLocation	PickSalesOrder
IssuePack	ReceiveDOByPack
IssueWOComponentByPack	ReceivePackByPL
MaintainComponentSerial	RecordBackflush
MaintainItemMaster	Repackage
MaintainPackBuild	ReturnPOPack
MaintainPackCreate	ReturnWOComponentByPack
MaintainPackDecomm	ScrapInventoryPack
MaintainPackReceipt	SplitPack
MaintainPackReceiptByWO	TransferMultiPack
MaintainPackRemove	TransferRepPicklistPack

Product Information Resources

QAD offers a number of online resources to help you get more information about using QAD products.

QAD Forums (community.qad.com)
Ask questions and share information with other members of the user community, including QAD experts.

QAD Knowledgebase (knowledgebase.qad.com)*
Search for answers, tips, or solutions related to any QAD product or topic.

QAD Document Library (documentlibrary.qad.com)
Get browser-based access to user guides, release notes, training guides, and so on; use powerful search features to find the document you want, then read online, or download and print PDF.

QAD Learning Center (learning.qad.com)*
Visit QAD's one-stop destination for all courses and training materials.

*Log-in required

Index