



QAD Enterprise Applications
Enterprise Edition

User Guide

QAD Sales

Sales Quotations
Sales Orders/Invoices
Container and Line Charges
Available to Promise
Shipping
Shipment Performance
Customer Consignment Inventory
Enterprise Material Transfer (EMT)
Configured Products
Sales Analysis
Legal Documents

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QAD Inc.

100 Innovation Place
Santa Barbara, California 93108
Phone (805) 566-6000
<http://www.qad.com>

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Introduction to Sales

This guide covers the following topics:

Sales Quotations 3

Sales Quotations lets you respond to requests for quotations (RFQs), monitor statuses, calculate gross margins, retain histories by item and customer, and track unsuccessful quotes. Once accepted, sales quotes can be released to sales orders.

Sales Orders/Invoices 15

Sales Orders/Invoices lets you enter, price, and print sales orders, verify credit, allocate inventory, print picklists and packing lists, record shipment data, print invoices, and generate control reports. Sales Orders/Invoices is closely integrated with the Inventory Control, MRP, and Accounts Receivable modules to give a high level of control over the sales order process.

Container and Line Charges 47

The Container and Line Charges (CLC) module provides suppliers a way to track and invoice customers for shipping containers (such as pallets, crates, or bins), and extra line charges (such as shipping, painting, and detailing). Line charges and container charges are added at the order line-item level. This module also supports the setup of flexible data entry points during the shipping process for recording and tracking shipping codes or related shipping information.

Available to Promise 73

Available to promise (ATP) is the uncommitted portion of inventory or planned production available to be promised to new orders. During order entry or confirmation, you can have the system check for adequate ATP before committing to a delivery date.

Shipping 85

Shipping covers a wide range of features that support complex international shipping requirements. These requirements include numbering control, document formats, multiple carriers, and transaction-based security. Advanced shipping programs such as Pre-Shipper/Shipper Workbench enable users to perform many functions in one place. Workbench automatically creates shippers for picklists and allows shipments to be containerized in a single process.

Shipment Performance 187

The Shipment Performance module improves shipping processes by monitoring the timeliness of shipments against customer-requested ship dates and the completeness of each order shipped. With the Shipment Performance module, you can monitor shipping effectiveness by measuring how a shipping department meets customer-requested ship dates and quantities. You can choose which date to use for measuring performance based on your business practices: the line-item performance date, due date, or required date.

Customer Consignment Inventory 219

The Customer Consignment Inventory module lets you plan, order, ship, track, and report customer-consigned inventory using an automated system that reconciles inventories between suppliers and customers. Invoicing and AR transactions are deferred until the inventory is used by the customer.

Enterprise Material Transfer (EMT) 255

Enterprise Material Transfer (EMT) supports automatic translation of sales orders into purchase orders. In companies using EDI eCommerce, EMT can transmit these purchase orders in electronic data interchange (EDI) format to secondary organizations that use different databases.

Configured Products 295

Configured Products lets you define a product structure that includes optional features and accessories. During sales order entry, you can accept a standard bill of material or select from a set of predefined features and options.

Sales Analysis 307

Sales Analysis lets you monitor salesperson productivity and effectiveness at maintaining margins. It gives greater visibility on sales by product line or item, and lets you rank items by sales, margin, or quantity.

Legal Documents 315

Legal Documents supports legal requirements of some countries to track transportation of merchandise with a document that includes specific numbering rules, information, format, and layout to prove legality and possession of the inventory being shipped, received, or moved.

Sales Quotations

The Sales Quotations functions let you respond to a customer's request for a quote, monitor the quote's status, report on quote history by item or customer, and report on expired quotes that did not result in sales orders. You can also automatically create sales orders from approved quotes. This chapter explains how to manage sales quotes.

Sales Quotations Overview 4

Describes the sales quote process, types of sales quotations, and sales quotation functions.

Setting Up Sales Quotes 5

Outlines how to use Sales Quote Control and Sales Quote Accounting Control to set up sales quotes.

Creating Sales Quotes 7

Describes how to create or copy sales quotes using Sales Quote Maintenance, Sales Quote Copy from Order, and Sales Quote Copy from Quote.

Printing Sales Quotes 10

Explains how to print single or multiple sales quotes using Sales Quote Print.

Releasing Sales Quotes 11

Illustrates how to release a sales quote after a customer requests delivery using Sales Quote Maintenance.

Repricing Sales Quotes 12

Describes how to change the price of items on sales quotes using Sales Quote Repricing.

Deleting and Archiving Sales Quotes 13

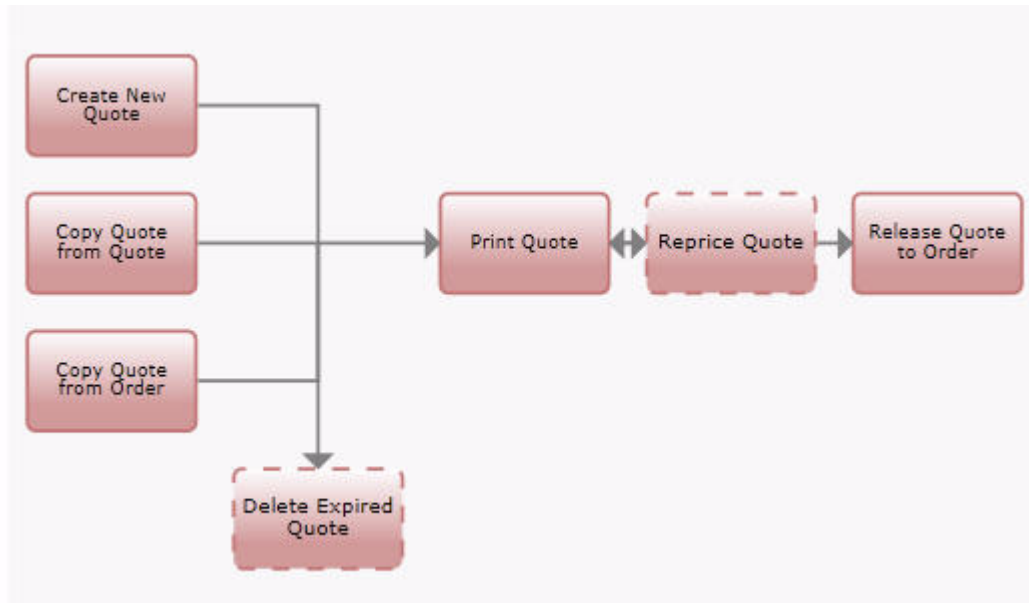
Describes how to delete or archive sales quotes using Expired Quote Delete/Archive and retrieve archived quotes using Archive File Reload.

Sales Quotations Overview

A sales quotation or sales quote is a commitment to sell a certain customer certain items at a certain price. Customers who use bids for choosing suppliers often request quotes. Exact delivery dates and order quantities are usually specified when a quote becomes a sales order.

The Sales Quotations module includes tools to enter and print a sales quote, release it to a sales order, update prices on the quote, create a new quote from an existing quote or sales order, and track lost sales by reason code.

Fig. 2.1
Sales Quote Process Flow



Types of Quotes

Two types of sales quotes are supported:

- One-time quote for a single sale. When the customer agrees to the terms, you can release the quote to an order.
- Recurring quotes for repeat business. The quantity to release represents the quantity you anticipate the customer will order each time. If the customer orders on a regular cycle such as weekly or monthly, you can enter a cycle code. Groups of quotes can be released together based on cycle code.

To support customer partnerships and recurring deliveries, the system provides an alternative to sales quotes. The Customer Schedules function in the Scheduled Order Management module provides more visibility into the timing of a customer's projected requirements. Additionally—unlike sales quotes—MRP sees customer schedules as a source of demand. If you choose to use quotes instead of customer schedules, be sure to include anticipated sales from open quotes in your forecast.

See *User Guide: QAD Scheduled Order Management*.

Menu Listing

Table 2.1 lists the functions available for setting up and using the Sales Quotation module.

Table 2.1
Sales Quotation Programs

Number	Menu Label	Program
7.12.1	Sales Quote Maintenance	sqgomt.p
7.12.2	Sales Quote Browse	sqbr001.p
7.12.3	Sales Quote Print	sqqorp05.p
7.12.5	Sales Quote Copy from Order	sqqocpy.p
7.12.6	Sales Quote Copy from Quote	sqqoqo.p
7.12.8	Sales Quote Repricing	sqrepr.p
7.12.10	Sales Quote Release to Order	sqqoso.p
7.12.13	Sales Quote by Quote Report	sqqorp.p
7.12.14	Sales Quote by Customer Report	sqqorp01.p
7.12.15	Sales Quote by Item Report	sqqorp02.p
7.12.16	Sales Quote Gross Margin Report	sqqorp08.p
7.12.17	Sales Quote Reason Lost Report	sqqorp03.p
7.12.23	Expired Quote Delete/Archive	sqqoup.p
7.12.24	Sales Quote Control	sqqopm.p
36.9.9	Sales Quote Accounting Control	fisqqopm.p

Setting Up Sales Quotes

To create a sales quote, you must first set up standard data—customer addresses, sites, item masters, and so on. For example, if you track salespersons and commissions, set up records in Salesperson Maintenance before issuing sales quotes.

Use settings in two control programs to tailor the Sales Quotations module to the way your business works. You can define general controls for the current domain, as well as establish default values for managing sales quote functions:

- In Sales Quote Control (7.12.24), define several operational control values.
- In Sales Quote Accounting Control (36.9.9), specify operational settings that have an impact on financial activities, such as whether freight charges are calculated by site.

Fig. 2.2
Sales Quote Control (7.12.24)

The screenshot shows the 'Sales Quote Control' window. It features a title bar with a close button. Below the title bar is a menu bar with 'Sales Quote Control', 'Go To -', and 'ACTIONS -'. The main content area contains the following controls:

- Quote Prefix: SQ
- Next Quote: 100011
- Ln Format S/M: Single (dropdown menu)
- Are Quotes Printed: ☒
- Quote Header Comments: ☐
- Quote Line Comments: ☐
- Days Until Expire: 60

Quote Prefix and Next Quote. Set up a prefix for the quote number to easily distinguish quotes from sales orders. Start automatic number assignment with a high number to ensure that the alphanumeric sort properly sequences the quotes.

Ln Format S/M. You can enter quotes in either single- or multiple-line mode—depending on how many fields are updated during order entry. New quotes default to the value set in this field.

Are Quotes Printed. Set this field based on your company procedure. This field determines the default for the Print Quote field when a new quote is created.

Quote Header and Line Comments. Set default values based on whether your company normally uses comments.

Days Until Expire. Enter a default number of days for the system to add to the quote date to produce an expiration date. For example, if you set this field to 60, then generate a quote on April 3, the Expires field on the quote header defaults to June 2.

Fig. 2.3
Sales Quote Accounting Control (36.9.9)

Company Address. Use Company Address Maintenance (2.12) to set up the company address you want printed on the top of the sales quote—generally, your formal address. Leave blank to use preprinted forms.

FOB. Optional default free-on-board location for calculating freight charges manually. A value set here appears in the quote trailer and is copied to the sales order.

Calculate Freight by Site. Companies with multiple ship-from sites usually set this field to Yes. The system then calculates freight charges using the line item site. Otherwise, it uses the header site.

Price Table Required. This field determines how strictly price lists are used to control order entry.

No: Items can be entered whether or not a price list exists.

Yes: Only items from an existing price list can be entered, and only if the price list item, unit of measure, and currency match the order item, unit of measure, and currency exactly.

Vary Pricing Date by QO Line. During line-item entry in Sales Quote Maintenance, a pop-up window displays four fields related to pricing: Pricing Date, Credit Terms Interest %, Reprice, and Manual. If Vary Pricing Date by QO Line is Yes, you can modify the Pricing Date and Credit Terms Interest % fields for each line. When Vary Pricing Date by QO Line is No, you cannot update these fields on individual lines. Instead, the system automatically updates all the lines when you change the header field.

Creating Sales Quotes

Since the quote is an optional first step in the sales order process, you can enter most of the data needed by the sales order on a quote. The system copies the data to the sales order when you release the quote.

You create a sales quote by entering data in Sales Quote Maintenance or by copying an existing quote or sales order.

Using Sales Quote Maintenance

The sales quote is similar in layout to the sales order. Multiple frames display when you enter a quote: the header, optional comments, line items and optional comments, and the trailer. See “Creating Sales Orders” on page 18.

Header Information

Header information applies to the entire quote. Some values default from control program settings and master data, but you can change many of them. The header identifies the customer as well as billing and shipping locations. This section also contains pricing and credit terms information. You do not need to enter dates (Required, Promise, and Due Dates) until you are ready to release the quote to a sales order.

Fig. 2.4
Sales Quote Maintenance Header (7.12.1)

The screenshot shows the 'Sales Quote Maintenance' window with the 'Header' tab selected. The window title is 'Sales Quote: SQ100014'. Below the title bar, there are tabs for 'Header', 'Sold-To', and 'Ship-To'. The 'Header' tab is active, displaying the following information:

- Quote:** SQ100014
- Sold-To:** 10000
- Bill-To:** 10000
- Ship-To:** 10000

Below these, there are sections for 'Sold-To' and 'Ship-To' details, both showing 'Quality Products Div 1000', 'Distribution Division', 'One World Way', 'Morristown', 'NJ', '07960', and 'X United States'.

The 'Details' section contains various fields:

- Quote Date:** 04/09/2007
- Expires:** 06/08/2007
- Confirm Date:**
- Follow-up:**
- Pricing Date:**
- Purchase Order:**
- Remarks:** ALL SHIPMENTS PER CORP CONTRACT A-OQ
- Reprice:**
- Site:** 2005
- Entered By:** Inr
- Line Pricing:** ☒
- Manual:**
- Daybook Set:** RMJ-DSS1
- Channel:**
- Project:**
- Release:** ☐
- Currency:** USD
- Taxable:** ☒
- Language:** us
- Fixed Price:** ☒
- Credit Terms:** 2-10/30
- Credit Terms Interest %:** 0.00
- Cycle Code:**
- Recurring:** ☐

Most of the fields on a sales quote are the same as the corresponding fields in Sales Order Maintenance. See “Creating Sales Orders” on page 18. Fields that apply especially to quotes are described here.

Expires. Enter the date the quote expires. The system calculates this date by adding the time interval specified in the Days Until Expire field (Sales Quote Control) to the quote date. You can override this date.

Purchase Order. Specify the customer purchase order number, if any. Frequently, the customer knows only their own purchase order number—so a cross-reference on your quote can be useful. If PO Required is Yes for the customer, the quote cannot be released to a sales order unless a purchase order number is specified.

Note PO Required is defined in Customer Data Maintenance (2.1.1).

Release. Enter Yes or No to indicate whether a sales order should be created from this quote. Sales Quote Release to Order (7.12.10) examines this value. Orders are only created for quotes with a Yes in the release field, matching other selection criteria. Typically, this field is set to Yes when the customer accepts the quote. See “Releasing Sales Quotes” on page 11.

Fixed Price. This field indicates whether the quoted prices are fixed or subject to batch updates due to inflation, commodity repricing, or break quantities. The header value sets the default for each line. Sales Quote Repricing (7.12.18) examines the value of this field to determine if a line item price should be adjusted. See “Repricing Sales Quotes” on page 12.

Unlike most quote fields, the value of Fixed Price on the header is not copied to the order when a quote is released. The system redefaults the appropriate value from Customer Data Maintenance. However, the value established for each quote line is copied.

Cycle Code. If Recurring is Yes, indicate the frequency you plan on releasing sales orders from this quote. Set up values in Generalized Codes Maintenance (36.2.13) for field qo_cycle to standardize input.

Recurring. Enter Yes to allow a quote to be used for a sales order more than once. If the quote is reused on a regular basis, you can enter a cycle code. Recurring quotes can also be used for recurring deliveries or blanket customer orders. Quotes are not considered by MRP.

Last Sales Order and Release Count. Used for recurring quotes only. Last Sales Order displays the number of the last sales order released from this recurring quote. Release Count displays how many times this quote has been released to sales orders.

Reason Lost. You can use this to track sales quotes that did not become sales orders. Predefine codes with Reason Codes Maintenance (36.2.17). The Sales Quote Reason Lost Report (7.12.17) lists quotes by reason lost codes. You can also enter a reason lost code by line item.

Line Item Section

A quote contains one or more lines. Each line includes the item number, quantity quoted, and unit of measure. If the item number is your customer’s number, the system displays your internal item number, referenced from Customer Item Maintenance. Both numbers print on all sales quote documents.

If you are creating a new quote for an item that has one of the item replacement types defined for it and the entry is on or past the item replacement’s effective date, you are either prompted to confirm or select the item replacement. See *User Guide: QAD Master Data*.

You can enter line items in single- or multiple-line mode—the default is specified in Sales Quote Control. More fields are available for updating in single-line mode, such as Due Date and Qty to Release, but multiple-line entry is quicker. You can switch between the two within a quote.

Fig. 2.5
Sales Quote Maintenance Line Items (7.12.1)

The screenshot shows the 'Sales Quote Maintenance' window for Sales Quote SQ100018. The window has a header section and a 'Lines' section. The 'Lines' section contains a table with columns: Ln, Item Number, Qty Quoted, UM, List Price, Discount, and Net Price. There is one line item with Ln 1, Item Number LL-500, Qty Quoted 100.0, UM, List Price 0.00, Discount 0.0, and Net Price 0.00. Below the table is the 'Line Details' section, which includes fields for Desc, Location, Lot/Serial, Qty to Release, Qty Released, Cost, Fixed Price, Required, Promise, Due Date, Freight List, Site, Sales Tax, Pricing Date, Credit Terms Int, Reprice, Manual, and Comments. A 'Pricing' dialog box is open over the 'Pricing Date' field, showing 'Pricing Date: 04/23/2007'.

Ln	Item Number	Qty Quoted	UM	List Price	Discount	Net Price
1	LL-500	100.0		0.00	0.0	0.00

Most of the quote line values default from the header and can be updated on each line item. These fields are used in almost exactly the same way as sales orders. Fields specific to quotes are described here:

Location. Enter the location where this sales quote line item is stored in inventory.

You can leave Location blank during line-item entry. After the quote is released to a sales order, the system determines an inventory location during allocation or when the packing list is printed.

Location defaults from Item-Site Inventory Data Maintenance (1.4.16) for the quote line site; if a site-specific record does not exist; location defaults from Item Master Maintenance (1.4.1).

Note If this is a consigned order or reserved locations have been defined for the sold-to, ship-to, or bill-to customer on this order, different defaulting logic is used.

- If this is a consigned order, location defaults from Ship-To/Item Controls Maintenance (7.18.1).
- If a reserved-location record is found with Primary set to Yes, this location displays by default.
- If reserved locations are defined for one of the sales quote address records but none is designated as primary, the first reserved location found alphabetically within the site displays by default.

Qty to Release. Determines the Qty Ordered field on the sales order line created from the quote. This field defaults from the Qty Quoted. For recurring quotes, the release quantity is usually less than the quote quantity. It represents the quantity to release each cycle: For example, if the quote is for 12 months of support billed monthly, enter a quote quantity of 12 and a quantity to release of 1.

The line item quantity refers to the quote as a whole. But since multiple sales orders can be made from one quote, Qty to Release and Qty Released indicate what to enter on a single sales order and how much has been released on all sales orders generated from this quote so far.

Qty Released. The system updates this field automatically each time a quote is released. It indicates how much has been released on all sales order lines generated from this quote.

Trailer Section

Once all line items are entered, trailer information displays. Line items are totaled, and taxes, optional order discounts, and freight charges are calculated. Add any miscellaneous charges here. The fields on the trailer are similar to those on the sales order trailer. The value of Print Quote defaults from Sales Quote Control. See “Sales Orders/Invoices” on page 15 for details.

The display of tax information in the trailer is set up in Global Tax Management Control. See *User Guide: QAD Global Tax Management* for information on setting up GTM.

Copying a Sales Quote

Sales Quote Copy from Order (7.12.5) and Sales Quote Copy from Quote (7.12.6) are useful for minimizing data entry for similar quotes.

Fig. 2.6

Sales Quote Copy from Order (7.12.5) and Copy from Quote (7.12.6)

Sales Quote Copy from Order

Sales Order: SO164 Sold-To: IT100 Italian Customer
 Order Date: 02/05/2007 Bill To: IT100 Italian Customer
 Ship-To: IT100 Italian Customer

Quote: SQ100017 Sold-To: IT100
 Quote Date: 04/09/2007 Bill To: IT100
 Expires: 06/08/2007 Ship-To: IT100

Sales Quote Copy from Quote

Quote: SQ100255 Sold-To: 6000 ABC Company
 Quote Date: 04/09/2007 Bill-To: 4000 ABC Company
 Ship-To: 4000 ABC Company

Quote: SQ100018 Sold-To: 6000
 Quote Date: 04/09/2007 Bill To: 4000
 Expires: 06/08/2007 Ship-To:

Sold-To
 Italian Customer
 Via Roma
 Milano
 Italy

Bill-To
 ABC Company
 150 JFK Parkway
 Morristown, NJ 07950
 X United States

The system assigns a number to the new quote.

Enter the number of the sales order or quote to be copied; then add the customer and ship-to address codes and the quote expiration date. The system generates a new quote based on this data and the information in the source quote or order. You can modify the quote as needed in Sales Quote Maintenance before printing or releasing it.

Printing Sales Quotes

Use Sales Quote Print (7.12.3) to print single or multiple quotes by number, customer, or quote date. Set Print Features and Options to Yes to list detailed data for configured items.

Fig. 2.7
Sales Quote Print (7.12.3)

The quote layout depends on the Form Code setting.

After printing the selected quotes, the system prompts you to verify that they printed correctly. This updates the Print Quote field in Sales Quote Maintenance to prevent unwanted duplication. To reprint a quote that has successfully printed before, you must manually reset the field to Yes.

The display of tax information in the trailer is set up in Global Tax Management Control (29.24) using the fields Display Detail on Reports and Display Taxable/Non-Taxable on Trailer. See *User Guide: QAD Global Tax Management* for information on setting up GTM.

Note The country of the sold-to customer determines the numeric and date formats on the printed quote.

Releasing Sales Quotes

When the customer requests delivery, modify the Release field in Sales Quote Maintenance (7.12.1) and specify Yes. Then enter the Qty to Release and Due Date for each line item. Sales Quote Release to Order (7.12.10) enables you to release quotes to sales orders by cycle code (used with recurring quotes), quote number, customer number, or quote date.

Fig. 2.8
Sales Quote Release to Order (7.12.10)

Enter a number or let the system use the next number from Sales Order Control.

When you release a quote, the system resets several fields in Sales Quote Maintenance:

- Release in the header is reset to No on all quotes except recurring quotes with a non-blank cycle code.
- Released Date displays the new sales order date.
- Release Count increments by one if it is a recurring quote.

- The number of the created sales order appears in Last Sales Order.

You do not have to release the entire quantity of a sales quote to one sales order. The system can process multiple releases for any line item.

If you release an item by mistake, use Sales Order Maintenance to change, cancel, or delete the line. These changes do not affect the values in Release Count and Qty Released, however.

A sales quote cannot be released if either of these conditions exists:

- It has a non-blank action status.
- The customer requires a PO and one has not been specified.

Repricing Sales Quotes

You may need to change the price of items on sales quotes, particularly when the product is commodity based. Sales Quote Repricing (7.12.8) uses the same logic as Sales Quote Maintenance to recalculate the price of eligible lines on the selected sales quotes. Tax is also recalculated, if applicable.

Fig. 2.9
Sales Quote Repricing (7.12.8)

Perform optional credit checks during repricing.

Enter criteria to select quotes for repricing. If you leave the selection criteria blank, the system reprices all eligible quotes using the best pricing algorithm and recalculates quantity breaks and discounts. Only quote lines with Fixed Price set to No are included. See “Sales Orders/Invoices” on page 15 for more information on repricing.

As a part of the update process, you can optionally perform credit checking and update credit action status based on the newly calculated prices.

Check Credit. If No, the following two fields are skipped and no credit checking is performed.

Set/Clear Action Status. If Yes and the quote exceeds the customer credit limit, the Action Status is updated to the New Action Status. If a quote on hold is now found to be within the customer credit limit, the action status is cleared.

New Action Status. Specify the new action status to be placed on quotes that exceed the customer credit limit. If left blank and Set/Clear Action Status is Yes, the system automatically resets the action status to HD (hold).

Recalculate Taxes. Indicate whether tax amounts should be recalculated for the quotes being repriced. Tax recalculation will overwrite any manually updated tax values.

The update report shows both the old and new price and the discount for all lines changed. Price is determined by the quantity ordered, but the open quantity is printed on the report. The update creates transaction history records for all lines changed.

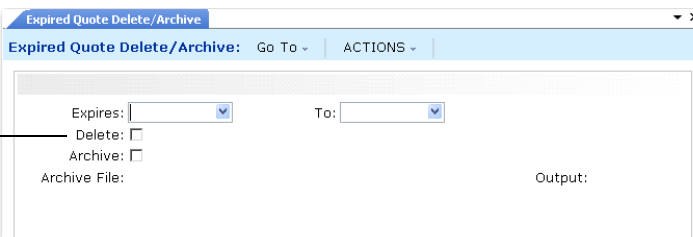
Deleting and Archiving Sales Quotes

The system does not automatically delete historical information at period or year end. You can delete this information as often as you want.

Most companies keep old quotes available for some time—you can use them with Sales Quote Copy from Quote to generate new quotes. When you do delete them, be aware that Expired Quote Delete/Archive (7.12.23) deletes all quotes that have passed the specified expiration date, regardless of whether they have been released to sales orders or not.

Fig. 2.10
Expired Quote Delete/Archive (7.12.23)

Run with Delete set to No and review the report. Then run with Delete set to Yes.



When Delete is Yes, historical information satisfying the selection criteria is deleted from the database. When Archive is Yes, deleted data is also copied to an ASCII file that can be reloaded using Archive File Reload (36.16.5). Otherwise, deleted data cannot be recovered.

Sales Orders/Invoices

You can manage all aspects of sales order and invoice processing, including creation, confirmation, allocation of inventory, shipping, and posting. This chapter describes the following topics:

Sales Orders/Invoices Overview 17

Describes the sales order/invoice process.

Creating Sales Orders 18

Illustrates how to create sales orders using Sales Order Maintenance.

Calculating Promise and Due Dates 25

Describes how to set up the system to perform automatic date calculations on sales order lines and issue lines on return material authorizations (RMAs).

Running Credit Checks 27

Describes how the system verifies the bill-to customer's total current liability.

Processing Freight Charges 28

Outlines how to manage a variety of tasks for processing freight charges.

Repricing Sales Orders 30

Details how to reprice items on sales orders using Sales Order Repricing.

Printing Sales Orders 31

Describes how to print a sales order, including the header, line items, and trailer, using Sales Order Print.

Printing Picklists 32

Describes how to print a picklist for a sales order using Sales Order Packing List.

Shipping 33

Details how to ship an order using Sales Order Shipments.

Managing Containers and Shippers 34

Describes how to record, confirm, and delete/archive container and shipper information using Containerization Menu and Shipment Processing Menu.

Processing Invoices 34

Details how the system automatically creates a pending invoice, which you can then print in draft format, review, update as needed, and then post and optionally print.

Correcting Invoices 41

Shows how to correct invoices using Sales Order Maintenance and additional functions.

Processing Returns 44

Details how to process returns using sales order functions. You can also process returns using the Return Material Authorization feature of Service/Support Management.

Generating Reports 45

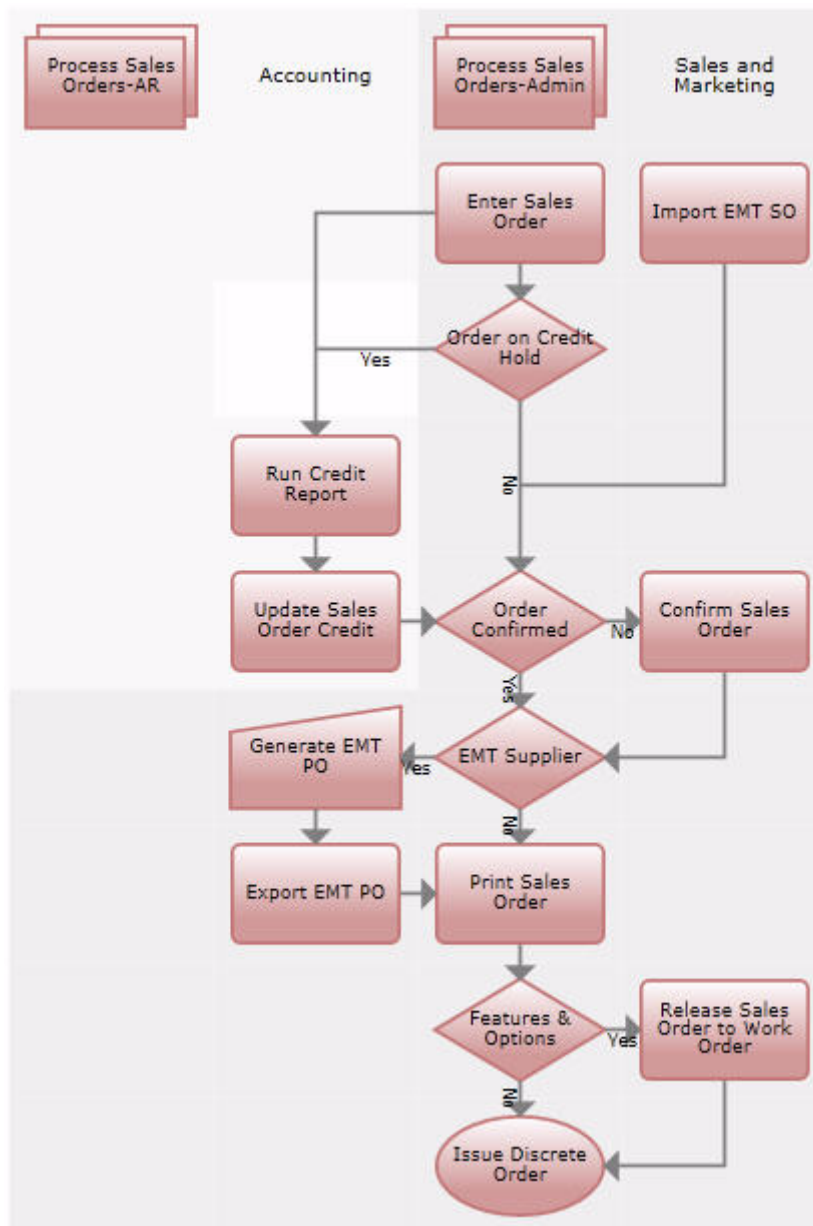
Describes how to generate reports about sales orders and invoices.

Sales Orders/Invoices Overview

A customer sale can begin as a sales order or a sales quote. Both represent offers to sell the customer certain items at a certain price at a certain time. The sales order also represents a commitment from the customer to purchase the items, but a sales quote does not. Consequently, sales quotes are not considered by MRP.

When a customer accepts a sales quote, the quote is released to a sales order. Information from the sales quote is automatically transferred to the sales order. Figure 3.1 shows the sales order process.

Fig. 3.1
Sales Order Process



The system supports a number of different shipping methodologies, from the very simple to highly complex. The most simple methods are discussed in this chapter. Other shipping methods are discussed in Chapter 6. See page 86 for details.

Once invoices are posted, financial processing continues with accounts receivable functions. See *User Guide: QAD Financials* for details.

Creating Sales Orders

Use Sales Order Maintenance (7.1.1) to create a sales order, which includes three sections.

- Header. Contains the general terms of the order, as well as default values for line items.
- Line Item. Specifies a particular item being ordered, its order quantity, and price. Lists any exceptions to header information, such as a date or address that applies to only the line item and not the whole order.
- Trailer. Contains tax, shipping, and order status information for all line items.

If you use sales quotes, Sales Quote Release to Order copies information from the quote into the new sales order. See “Releasing Sales Quotes” on page 11.

Effect of Optional Features

A number of optional features and modules affect the processing of sales orders. Many of these options add additional pop-up windows that display during header or line-item entry. This chapter describes standard sales orders. If you are using optional features, the following list indicates where you can find additional information when:

- You are using the optional Container and Line Charges module and the order qualifies for container or line charges. These pop-ups are described in Chapter 4. See page 47.
- You are using available-to-promise (ATP) features and the system determines that insufficient inventory will be available on the due date. These pop-ups are described in Chapter 5. See page 74 for details.
- You are using the optional Customer Consignment Inventory module. These pop-ups are described in Chapter 8. See page 219.
- You are using Enterprise Material Transfer (EMT). These pop-ups are described in Chapter 9. See page 256 for details.
- You are entering a sales order for a configured item. These pop-ups are described in Chapter 10. See page 17 for details.
- You are using Service/Support Management (SSM) and you enter a sales order for a service item that updates the installed base. This feature is explained in *User Guide: QAD Service/Support Management*.
- You are changing a value in a field or deleting an entire sales order line and these conditions are tracked for changes. This feature is explained in *User Guide: QAD System Administration*.
- You are using the optional Logistics Accounting module. These effects are described in *User Guide: QAD Master Data*.
- You are creating a new order entry for an item that has one of the item replacement types defined for it and the entry is on or past the item replacement’s effective date. These effects are described in *User Guide: QAD Master Data*.

Customers and Sales Orders

Customers represent the companies that purchase your goods and services. They are referenced on sales quotations, sales orders, invoices, and in accounts receivable.

Customers are created in the AR module and all financial related data, such as credit limits and accounts, are defined by designated users with access to financial functions. Customers reference business relations for all address details and default tax data. See *User Guide: QAD Financials* for details.

After a customer has been created and set up by an authorized role, additional operational data, such as the default inventory site for sales transactions, can be associated with the record in Customer Data Maintenance (2.1.1).

Values associated with customer addresses determine default values in functions that reference customers, as well as determining how customer transactions are processed. For example, Credit Hold determines whether orders for a customer are automatically put on credit hold.

A sales order or sales quotation can reference up to three customer addresses. These addresses can reference the same business relation or different business relations.

- *Sold-to customer.* The customer placing the order.
- *Bill-to customer.* The customer paying the invoice. A single bill-to is assigned when the customer is set up. If no bill-to is assigned, the sold-to customer code is used as the bill-to.
- *Ship-to customer.* The customer receiving the order. Each customer can have multiple ship-to addresses. You can create a new ship-to during the process of creating a sales order. However, this is only possible if your role has permission to execute the Customer Ship-To Create (27.20.2.1) function.

Sales order header information, such as default credit terms and currency, is determined by the bill-to customer. Other fields default from the sold-to customer, unless a customer record was entered for the ship-to address for the order. These include language, taxable status, and other tax defaults.

During order entry, the bill-to address defaults from the sold-to, unless a different bill-to address is assigned to the sold-to customer. The ship-to address also defaults from the sold-to address. If alternate ship-to addresses are defined, they can be selected as needed.

Only active customers that have operational data defined can be selected for a sales order. In addition, whether you can create a new order for a customer can be affected by the customer blocking functions. These functions let you prevent specified transactions from being created for active customers. This can be used while you are renegotiating a customer contract to prevent new orders or to block shipments to a customer with credit problems. Customer blocking is defined using functions on the Blocked Transactions Menu (2.23). See *User Guide: QAD Master Data* for details.

Sales Order Header

Some header elements, such as some date fields, Site, and Confirmed, become default values for the line items and can be changed during line item entry. Others, such as Sold To and Line Pricing, apply to the entire sales order and cannot be changed on the line items.

Note If you have set Use Correction Invoices to Yes in Sales Order Accounting Control (36.9.6), additional fields display in the first frame of Sales Order Maintenance. See “Correcting Invoices” on page 41.

Fig. 3.2
Sales Order Maintenance (7.1.1)

The screenshot shows the 'Sales Order Maintenance' window for Sales Order: 80215. The window is divided into three main sections: Header, Sold-To, and Ship-To. The Header section displays Order: 80215, Sold-To: 4000, Bill To: 4000, and Ship-To: 4000. The Sold-To section shows ABC Company, 150 JFK Parkway, Morristown, NJ 07960, X United States. The Ship-To section shows the same information. The Details section contains various date and pricing fields: Order Date (04/23/2007), Required Date (04/24/2007), Promise Date, Due Date (04/24/2007), Perform Date, Pricing Date (04/23/2007), Purchase Order, Remarks, Line Pricing (Manual), Daybook Set (RMJ-DSE1), Channel, Project, Confirmed (checked), Currency (USD), Taxable (unchecked), AST, Fixed Price (unchecked), Credit Terms (BASE), Org Inv, Credit Terms Interest % (0.00), and Reprice (unchecked).

Major header fields include the following:

Order Date. The default is the system date. This can be the date the order was entered into the system or the date the customer placed the order.

Required Date. Enter the date the customer requires delivery. The default is blank. If you specify a different date than the due date, the system uses the value you enter as the default for new line items. If the header required date is the same as the due date, the line-item default is blank.

Promise Date. Enter the date that items are promised to arrive at the customer location. If you enter a date, it defaults to each new order line.

The header default is blank on both new orders and revised orders. If you enter a date in this field, the system resets the field to blank each time you access the order header.

Due Date. The system calculates the default due date by adding the Shipping Lead Time from Sales Order Control (7.1.24) to the Order Date. You can change this date.

Note Based on control program settings, the system may use Due Date, Required Date, and Promise Date to determine default dates on order lines. See “Calculating Promise and Due Dates” on page 25 for information.

The system uses the due date for MRP and for determining shipping priorities.

Performance Date. Enter the date originally planned to be the due date. If you enter a date, it defaults to each new order line.

The header default is blank on both new orders and revised orders. If you enter a date in this field, the system resets the field to blank each time you access the order header.

This date does not include transit time and can be used to evaluate the accuracy of shipment due dates.

Pricing Date. Enter the date used to select effective price lists. If you leave this field blank, it defaults from one of the other header dates after you finish entering header data. The system uses the date specified in SO Default Price Date in Pricing Control (1.10.1.24). See *User Guide: QAD Master Data* for more information on sales order pricing.

The date in this field defaults to each line item. You can modify it for individual lines only when Vary Pricing Date by SO Line is Yes in Sales Order Accounting Control.

Line Pricing. Enter Yes to have the system price each line item as it is entered and then display the best price. If No, the system waits until all line items are entered, then prices the order. In either case, if the prices change because of quantity breaks, the system recalculates the price. This setting only affects new orders. If you are maintaining an existing order, this field has no effect.

Confirmed. When you release a sales quote to an order, Confirmed is set to Yes in the header and each line and cannot be modified. When you create a new sales order, Confirmed defaults from Confirmed Orders in Sales Order Control and can be modified. The header value then defaults to the line items.

Enter Yes in the header to indicate a firm order. Firm orders can be allocated, consume forecast, and create demand for MRP. Enter No in the header to keep the order unconfirmed. Unconfirmed orders cannot be allocated and are not considered by MRP.

To confirm an order, run Sales Order Confirmation (7.1.5). To confirm by batch at the end of order processing, set Auto Batch Confirmation to Yes in Sales Order Control (7.1.24).

In the line item section, the Confirmed field indicates the item's status. If Yes, the system considers that line item firm. If No, the system does not consider it firm.

Manual. Enter a price list to have it included as a price list candidate when the system selects price lists to consider for this order. By specifying a manual price list, you are only marking it to be considered. The system still determines the best price according to the rules and codes previously set up.

Daybook Set. Enter the code for the set of daybooks that the system will use during invoice post. This defaults from the sold-to customer address. You can change it to a valid value defined in Daybook Set Maintenance (25.8.7) or Daybook Set by Site Maintenance (25.8.10). If daybooks have been set up by site—based on a setting in Sales Order Accounting Control—the system verifies that the specified daybook set matches the sales order site. See *User Guide: QAD Financials* for details on daybooks.

Fixed Price. Indicates whether the prices for items on this order are normally fixed or subject to batch updates due to inflation, commodity repricing, or break quantities. If Yes, Sales Order Repricing (7.1.11) does not update the line. Fixed Price defaults from the customer ship-to Fixed Price setting, if it exists; otherwise, from the sold-to. The header value of Fixed Price defaults to line items and can be changed on each line. See “Repricing Sales Orders” on page 30.

Reprice/Edit. Enter Yes to have the system reprice changed line items. It also reprices line items belonging to the same break category as an item code to which you make a change. If No, you can still reprice each line item individually in the order detail pop-up window. If Reprice is No on the order header and you enter a new line item, the system automatically reprices the new line.

When Reprice/Edit is Yes, you can also:

- Modify the bill of material for an existing configured line item. If you do, the system recalculates the cost and price.
- Update the discount account, sub-account, cost center, and project for an existing line item.

Consume Forecast. Specifies whether the quantity ordered should consume available forecast. If Yes, the order consumes the forecast. If No, the order quantity is considered abnormal and is planned in addition to the forecast. The setting in the header defaults to the line items and can be changed.

Detail Alloc. Indicates whether the system should make detail allocations for this line. If No, the system makes general allocations. This value defaults from Sales Order Control and becomes default value for line items.

Allocate Days. Optionally, enter the number of calendar days until cutoff date for allocating sales orders items. Use this field to manually control allocations. In Sales Order Maintenance, Sales Order Manual Allocations (7.1.6), and Sales Order Auto Allocations (7.1.7), the system allocates inventory only to line items due within this number of days.

Sales Order Line Items

Enter line items in single or multiple entry format. Single entry lets you customize due dates, sites, tax statuses, and other information for each line item. Multiple entry lets you enter basic information such as item number, quantity, and price for several lines on a single screen. The default format is specified in Sales Order Control (7.1.24).

Important If you are entering a sales order for an EMT item, you must use single-line mode. Otherwise, EMT Type defaults to non-EMT and the system does not automatically generate a PO for the supplier.

Fig. 3.3
Sales Order Maintenance (7.1.1), Sales Order Line Frame

Sales Order Maintenance

Order: SO215 Sold-To: 4000 Ln For: Single Org:

Ln	Item Number	Qty Ordered	UM	List Price	Discount	Net Price
1	TT-500	100.0	EA	0.00	0.0	0.00

Line Details

Desc: Standard wire clip Sales Acct: 3000 Disc Acct: 3900 Credit Terms Int: 0.00

Loc: Site: 10000 Confirmed: ☒ Ship Type: UM Conversion: 1.0000

USD Cost: 0.00 Required: 04/24/2007 Consume Fcst: ☒ Detail Alloc: ☐

Lot/Serial: Promised: Due Date: 04/24/2007 Taxable: ☐ Freight List: Riteway Comments: ☐

Qty Allocated: 0.0 Perform Date: 04/24/2007 Pricing Date: 04/23/2007 Multiple: ☐ Fixed Price: ☐

Qty Picked: 0.0 Salesperson 1: JP Commission 1: 6.00% Category: Fixed Price: ☐

.Location. Enter the location where this sales order line item is stored in inventory. See *User Guide: QAD Master Data* for information on reserved locations

You can leave Location blank during order entry and let the system determine an inventory location during allocation or when the packing list is printed. To make detailed allocations during order entry, you must specify a location. Enter Yes in Detail Allocation to specify multiple locations.

Location defaults from Item-Site Inventory Data Maintenance (1.4.16) for the order line site; if a site-specific record does not exist; location defaults from Item Master Maintenance (1.4.1).

Note If this is a consigned order or reserved locations have been defined for the sold-to, ship-to, or bill-to customer on this order, different defaulting logic is used.

- If this is a consigned order, location defaults from Ship-To/Item Controls Maintenance (7.18.1).
- If a reserved-location record is found with Primary set to Yes, this location displays by default.
- If reserved locations are defined for one of the sales order address records but none is designated as primary, the first reserved location found alphabetically within the site displays by default.

Lot/Serial. Use Lot/Serial to specify detailed information. If location and lot/serial are left blank, the system allocates inventory from the item's default site/location. This is *general allocation*.

Qty Allocated. Specify the quantity allocated to this order line. You can change this quantity.

Qty Picked. The quantity printed on a picklist for this line item. When a picklist prints, the system updates the quantity picked, ensuring that the same quantity is not printed again on the next picklist printed for this order.

Qty Shipped. A system-maintained field recording the total quantity shipped against this order line item.

Qty to Invoice. Displays how much has already been shipped on this order. When invoices print, quantity to invoice is multiplied by net price to determine invoice amount. The total of the allocated, picked, and shipped fields shows how much remains to be invoiced.

Ship Type. Indicate whether shipments of this item are to affect inventory balances. Type defaults from Memo Order Type in Item-Site Inventory Data Maintenance (1.4.16), if defined for the order line site; otherwise, it defaults from Item Master Maintenance (1.4.1). If the item is not defined, type defaults to M (memo).

Blank: This line item ships from inventory. When the shipment is processed, inventory balances are decreased, a general ledger (GL) transaction credits the Inventory account, and forecast is consumed.

Non-blank: This shipment does not affect inventory, does not create a GL Inventory transaction, and does not consume forecast.

While a non-blank ship type prevents the update of the Inventory account, Accounts Receivable (AR) balances are updated regardless of the ship type.

This field is validated against codes defined in Generalized Codes Maintenance (36.2.13) for field sod_type.

You cannot modify this field after a quantity has been shipped or invoiced.

Date fields. Some line-item dates default directly from the header; others may be calculated based on header date values and control settings.

- **Required:** This defaults from the header only if it is different from the header due date. Otherwise, the line-item default is blank. If you do not enter a required date for the line, the system sets it to the line due date after you complete line-item entry.
- **Promised and Due:** These fields can either default from the header or be automatically calculated. See “Calculating Promise and Due Dates” on page 25.
- **Performance:** This field defaults from the header. If the header field is blank and you do not enter a value for the line, the system sets it to the line due date after you complete line-item entry.
- **Pricing:** This field displays the header pricing date. You can modify it in a pop-up frame for individual lines only when Vary Pricing Date by SO Line is Yes in Sales Order Accounting Control.

Note If you use the Shipment Performance module, you can generate reports that compare a baseline date with the actual ship date. You can specify the line-item required date, due date, or performance date as that baseline date when you generate the reports. See Chapter 7, “Shipment Performance,” on page 187.

Category. This field can be used to assign optional categories to material order line items. For example, you can generate some reports based on categories in the Shipment Performance module.

Entries are validated against values defined in Generalized Codes Maintenance (36.2.13) for field line_category.

Sales Order Trailer

The trailer section contains financial information for the entire order.

Fig. 3.4
Sales Order Maintenance (7.1.1), Trailer Frame

Sales Order Maintenance

Sales Order: SO215 Go To ACTIONS

Header

Order: SO215 Sold-To: 4000 Bill To: 4000 Ship-To: 4000

Trailer

Non-Taxable: 0.00 Currency: USD Line Total: 0.00
 Taxable: 0.00 0.00% Discount: 0.00
 Tax Date: Taxable Service 11 0.00
 Containers: 0.00 Taxable Freight 21 0.00
 Line Charges: 0.00 Taxable Special 31 0.00
 Total Tax: 0.00
 Total: 0.00

View/Edit Tax Detail: [icon]

Trailer Information

CR Initials: [icon] Print Sales Order: ☒
 Credit Card: [icon] Print Pack List: ☐
 Action Status: [icon] Print Inv Hist: ☒
 Revision: 0 EDI Inv Hist: ☐
 EDI PO Ack: ☐ Partial OK: ☐
 Prepaid: 0.00
 FOB Point: SAN DIEGO [icon]
 Ship Via: GROUND [icon]
 BOL: [icon]

Major fields include the following:

Non-Taxable, Taxable. If the items on this order are subject to tax, and multiple tax classes apply to different lines, taxable amounts shown in the trailer may be incorrect. When you calculate taxes on a line-by-line basis, set Display Taxable/Non-Taxable on Trailer in Global Tax Management Control (29.24) to No to suppress the display of total amounts. See *User Guide: QAD Global Tax Management* for information on setting up GTM

View/Edit Tax Detail. Set this field to Yes to update or review tax amounts.

Action Status. Leave blank if this order can be processed immediately. Any nonblank entry indicates that the order is on hold and no action should be taken until it has been approved.

.During order entry, the system uses customer-specific parameters, as well as control settings, to perform a credit check. If the check fails, the system may automatically set this field to HD (credit hold). See “Running Credit Checks” on page 27

After an order is saved, you cannot modify a non-blank status in Sales Order Maintenance. Remove the hold status using Sales Order Credit Maintenance (7.1.13) or Sales Order Auto Credit Approval (7.1.17).

This field is validated against predefined values entered in Generalized Codes Maintenance for field so_stat, if any. Since credit is not the only reasons for holding an order, standardize reasons by setting up generalized codes.

Revision. Enter the revision level of the sales order. Each time an order is changed, you may want to increase the number by 1. You may also want to add comments describing the change and reasons for making it. A new copy of the order can be printed to document the change. You can also update the revision automatically when the order is printed by setting Increment Order Revision to Yes in Sales Order Print.

EDI PO Ack. If you use EDI eCommerce to import purchase orders from your customers in electronic data interchange (EDI) format to be converted to sales orders, this field controls whether the system creates a PO acknowledgement for export to the customer using Purchase Order Acknowledgement (35.4.5). If the customer has a record defined in Trading Partner Parameter Maintenance (35.13.10), the value defaults from the Send EDI PO Ack parameter. Otherwise, the default is No.

Amount Prepaid. The amount of prepayment applied to this sales order. The amount does not update the GL or customer account balance. Note that a separate cash payment entry must be made to record the payment in Accounts Payable. This can be done by recording a manual non-AP check. A supplier credit note should also be entered to track the prepayment amount. The supplier credit note can be placed on hold and released later when the invoice is received.

FOB Point. Free on Board. Identifies where title passes to the buyer and often is used to indicate who pays shipping charges.

Ship Via. Default carrier name set up in Customer Data Maintenance (2.1.1), which identifies the preferred carrier for a customer’s orders. This value can be overridden.

Calculating Promise and Due Dates

Optionally, you can set up the system to perform automatic date calculations on sales order lines and issue lines on return material authorizations (RMAs).

Using data set up in Delivery Transit Time Maintenance (2.16.1), the system can make two date calculations:

- Promise date, calculated by adding transit time days to the due date
- Due date, calculated by subtracting transit time days from the promise date

When Calculate Promise Date is No in Sales Order Control (7.1.24), any dates specified in the sales order or RMA header default as-is to the line items. See *User Guide: QAD Master Data* for information on delivery transit time.

Set Calculate Promise Date to Yes to enable automatic date calculations. Default line-item dates then depend on the values you enter in the header date fields:

- If you accept the default due date in the header, leave the header required date blank on sales orders, and enter a promise date, the line-item promise date is set to the header promise date. The system calculates the line-item due date by subtracting the delivery transit time specified in Delivery Transit Time Maintenance from the promise date.
- If you enter a required date in the sales order header that is not the same as the due date, accept the default header due date, and leave the promise date blank, the line-item required date and promise date are set to the header required date. The system then subtracts the transit delivery time from the promise date and enters that value as the line-item due date. This processing applies to sales orders only since the RMA header does not include a required date.

Note After you have saved an order, the system sets the header required date to equal the header due date. If you subsequently enter new lines, date calculations ignore the header required date unless you change it. If you do, the system sets the line promise date to equal the header required date as described.

- If you modify the default due date in the header and leave the promise date blank, the due date defaults to the line items. The system calculates the line-item promise date by adding the transit delivery time to the due date. If you specify a header required date on sales orders, the system copies it as the default line required date, but does not use it in date calculations.
- If you modify the default due date in the header and enter a promise date, the line-item due date and promise date are set to the header values. Specifying a header required date for sales orders has no effect in this case.

Additionally, when ATP Enforcement is Yes in Sales Order Control, the system automatically calculates dates in the following situations when Calculate Promise Date is Yes:

- When you have the system modify a due date based on an ATP warning or error, the promise date is recalculated.
- When you use Sales Order Confirmation (7.1.5) or RMA Confirmation (11.7.1.6), you can specify whether the system recalculates promise dates when it adjusts a due date to meet ATP requirements.
- When you use ATP Enforcement Check to determine if an item will be available on a given date, you can have the system calculate the due date or promise date based on ATP information.

For more information on ATP processing, see Chapter 5, “Available to Promise,” on page 73.

The system does not calculate promise dates for the following, regardless of the setting in Calculate Promise Date:

- EMT direct-shipment or transshipment items
- Unmodified existing line items
- Items shipped from sites with no transit times defined

Running Credit Checks

During order entry and certain other activities—for example, importing purchase orders using EDI eCommerce or creating service calls in Service/Support Management—the system verifies that the bill-to customer’s total current liability does not exceed customer-specific credit parameters.

If the credit check fails, the system can place an order on credit hold by setting the trailer Action Status field to HD. When that field has a value, you cannot include the order on a packing list or—if it is a configured item—release it to a work order.

Note While you can put an order on hold manually in Sales Order Maintenance by entering an action status, you cannot clear the Action Status field using that program. Instead, use Sales Order Credit Maintenance or Sales Order Auto Approval to clear the action status. See “Credit Status Update” on page 27.

To provide an additional element of control, your company’s credit controller can review sales orders, RMAs, or material orders in Sales Order Credit Maintenance (7.1.13) and mark them as reviewed. Orders can no longer be modified. To disable this feature, set Allow Maintenance of Reviewed Orders to Yes in Sales Order Accounting Control (36.9.6).

Credit Control Settings

System behavior related to credit checking varies based on several possible combinations of customer-specific settings defined on the Credit Limit tab in Customer Maintenance:

- The basis of the credit check can include the customer’s total open order balance across all domains, the total AR open item balance, or both.
- Credit checking can be based on a specified maximum currency value or a percentage of the customer’s total sales during the previous one-year period.

If you do not want to perform credit checks, do not select one of the options in the customer record. See *User Guide: QAD Financials* for information on how to set up credit management features.

- The system determines whether any invoices are overdue more than a specified number of days. If such an invoice is found, the customer is considered over-limit.
- Credit checks can take place before an order is entered or modified, after it is completed, or both. Additional control fields let you set similar parameters for invoices.
- The system can be configured to display a warning message during order entry when a specified percentage of the credit limit is reached or allow new orders but automatically place them on credit hold.
- An additional setting lets you put all orders for the customer on credit hold regardless of calculated credit availability.

The Hold Orders Over Credit Limit field in Sales Order Accounting Control determines whether the Action Status field is updated during credit checking. When that option is set to No, the system displays a warning when the credit check fails, but does not put new orders on hold.

Credit Status Update

In addition to the automated credit processing available during order entry, several programs let you manage the credit status of existing orders:

- Use Sales Order Credit Maintenance (7.1.13) to edit the Action Status field. This program also lets the credit controller review the order amount and customer credit information. A setting in Sales Order Accounting Control can prevent orders from being modified after they have been reviewed.
- Use Sales Order Auto Approval (7.1.17) to update the Action Status field for a group of orders. You also can run a credit check with this program and limit the Action Status update to orders that pass.
- Use Sales Order Auto Credit Hold (7.1.16) to run a credit check on selected orders and assign hold status to those that fail.
- When you run Sales Order Repricing (7.1.11), use control settings to run credit checks using the new prices and reset the Action Status field based on the results. See “Repricing Sales Orders” on page 30.

Processing Freight Charges

The system enables you to manage many tasks relating to freight charges. You can:

- Calculate freight charges automatically for memo items based on the shipping weight input by the user.
- Perform freight accounting at sales order shipment.
- Define how the system calculates automatic freight charges for sales order returns.
- Review and change all information used to calculate freight for line items on sales quotes, orders, shipments, and pending invoices.
- Override the item’s freight class and freight ship weight during transaction entry.

See *User Guide: QAD Master Data* for details on setting up freight charges.

Note Enabling the optional Logistics Accounting module changes how freight charges are tracked and billed. See *User Guide: QAD Master Data* for details on setting up Logistics Accounting.

Whenever the system cannot calculate freight automatically, an error message identifies whether the problem stems from a missing freight zone (2.20.4) or freight charge (2.20.10). For example, if the system cannot match the transaction’s address with a defined freight zones, the error message identifies the missing freight zone as the source of the problem. When calculating freight charges, if no due date exists, the system uses the current date.

You can enter freight information in the transaction headers for:

- Sales Quote Maintenance (7.12.1)
- Sales Order Maintenance (7.1.1)
- Sales Order Shipments (7.9.15)
- Pending Invoice Maintenance (7.13.1)

On existing quotes and orders, the Calculate Freight field defaults to No. Change this to Yes to have the system recalculate freight.

When you set the Display Weights field to Yes, the system displays a freight window for each line item. In this window you can enter (for memo items) or override (for inventory items) the Freight Class and Freight Ship Weight. For inventory items, the values for Freight Class and Freight Ship Weight default from the item master.

Automatic Freight Calculations and Sales Order Returns

Specify how the system should handle automatic freight charge calculations for sales order returns in Freight Control (2.20.24).

Sales Returns Freight Calculation. Enter P, N, or Z:

P (positive): The customer is charged for freight.

N (negative): The customer is credited for freight.

Z (zero): No freight is charged.

Freight Accounting

Sales Order Shipments (7.9.15) and Pending Invoice Maintenance (7.13.1) create an additional GL transaction that enables you to accrue freight expenses incurred but not yet billed to you by the freight carrier. In addition to the usual GL transaction for sales order shipments, the system also creates the following transaction for freight charges:

- Debit Sales Freight Applied account
- Credit Sales Freight Accrued account

The system uses the sales freight applied and accrued accounts, defined in Domain/Account Control (36.9.24), to post freight dollars calculated in sales order shipments.

The system debits the Sales Freight Applied account and credits the Sales Freight Accrued account for the calculated freight amount rather than the actual freight amount charged to the customer on the order. This approach lets you track estimated freight expense separately from freight actually billed. You can also compare expected freight expense to the charges paid in Accounts Payable.

Freight Charges Setup

Setup for automatic freight charges involves these steps:

1 Define accounts for Sales Freight Applied and Sales Freight Accrued.

First, set up the accounts in Account Maintenance (25.3.13). Then, specify these in Domain/Account Control (36.9.24). To *not* track accrued freight expenses, use the same account number for both sales freight applied and accrued.

2 Decide how to handle freight charges for Sales Order Returns.

In Freight Control (2.20.24), specify the Sales Returns Freight Calculation option for your company.

Repricing Sales Orders

Use Sales Order Repricing (7.1.11) to reprice items on sales orders. This program uses the same logic as Sales Order Maintenance (7.1.1) to recalculate the price and tax of eligible lines on selected sales orders.

The system excludes from automatic price recalculations lines that are closed, canceled, or returned. You can also selectively exclude lines by setting Fixed Price for line item to Yes. The customer's Fixed Price status defaults to the sales order header and ultimately to the line item, but can be overridden at the header or line level. See *User Guide: QAD Master Data* for more information.

Orders are selected for update based on selection criteria you specify. Leave selection criteria blank to process all orders.

Fig. 3.5
Sales Order Repricing (7.1.11)

Specify how credit data is checked and updated.

Specify how orders are combined for quantity discounts.

When repricing, you can reprint the sales order, perform credit checks, update the order's credit action status based on the newly calculated prices, and combine sales order quantities to provide better prices.

Print Sales Order. Enter Yes to have the system change Sales Order Print to Yes in Sales Order Maintenance (7.1.1).

Check Credit. Enter Yes to perform credit checks based on values entered in subsequent fields. Credit-related fields can be updated only when Check Credit is Yes. Enter No to skip the credit check.

Set/Clear Action Status. If Yes and the order exceeds the customer credit limit, the sales order action status is updated to the value of New Action Status. If an order that was on hold is now found to be within the customer credit limit, the action status is cleared.

New Action Status. This represents the new action status to be placed on orders that exceed the customer credit limit. If left blank and Set/Clear Action Status is Yes, the system automatically resets the order action status to HD (hold).

Check Credit Hold. Enter Yes for the system to check the hold field in the customer record before removing the order from credit hold. If the customer hold is Yes, the hold is not removed. If No, the sales order can be approved even if the customer is on credit hold.

Hold Over Credit Limit. Enter Yes for the system to compare the customer balance to the customer credit limit before approving the order. The customer balance includes open invoices and, depending on the value of Include Sales Orders, can optionally include open order balances. Enter No to have orders approved even if the customer is over its credit limit.

Include Sales Orders. Enter Yes to have balances of open sales orders falling within the selection criteria for this function included in the customer balance. This is to determine if a customer has exceeded its credit limit.

Check Past Due Invoices. Enter Yes to have the system check for invoices that are past due more than the number of days specified in the Days field. If Set/Clear Action Status is Yes and past due invoices are found, the order is placed on hold.

Days. Enter the number of days invoices can be past due before the order is placed on hold.

Amount. Enter the maximum total invoice amount that can be overdue before the system places the order on hold.

Combine Sales Orders. Enter Yes to combine sales orders according to specified matching criteria to provide for best pricing based on quantity discounts. Use Match Sold-To, Match Ship-To, Match Bill-To, and Match PO to specify the combining logic. The four Match fields can be updated only when Combine Sales Orders is Yes.

When this field is No, the system reprices each order individually.

Include RMA Issues. If Yes, the system includes RMA issues in sales order repricing.

Recalculate Taxes. Indicate whether tax amounts should be recalculated for the sales orders being repriced. Tax recalculation will overwrite any manually updated tax values.

The update report shows both the old and new price and the discount for all lines changed. The price is determined by the quantity ordered, but the open quantity is printed on the report. The update creates transaction history records for all lines changed.

Printing Sales Orders

To print a sales order, use Sales Order Print (7.1.3). All sections of the sales order—header, line items, and trailer—print. The display of tax information in the trailer is set up in Global Tax Management Control (29.24) using the fields Display Detail on Reports and Display Taxable/Non-Taxable on Trailer. See *User Guide: QAD Global Tax Management* for information on setting up GTM.

If you select a range of sales orders to print, the system skips any orders in that range being entered in Sales Order Maintenance (7.1.1) or Pending Invoice Maintenance (7.13.1) during the print run.

After printing the sales order, the system sets Print Sales Order in Sales Order Maintenance (7.1.1) to No. To reprint the order, set Print Sales Order to Yes and reprint using Sales Order Print (7.1.3).

To print simulated sales orders for review without updating the print field, set Update to No. SIMULATION appears in the header of each printed page.

Note The quantity shown on the sales order is the quantity open. If you reprint the sales order after shipment, the quantity does not reflect the original quantity ordered.

The country of the sold-to customer determines the numeric and date formats on the printed order.

The Form Code field controls the layout of the printed document. By default this is 1—the QAD-provided format. Follow these steps to define additional, custom formats to accommodate special document layout requirements. For example, Italian customers may require a different sales order layout than US customers.

- 1 Create a Progress program to format the document as required.
- 2 Name the new program file appropriately so it can be located by the print program. The file name is typically created by removing the first two characters of the print program name and appending a two-character form code.
- 3 Modify the applicable print function to consider the new form code as valid.

Example You create two new sales order formats, identified with form codes AA and 2. The program name for Sales Order Print is sosorp05.p and the default sales order layout is defined by sorp0501.p. You should use program file sorp05AA.p to store sales order form code AA and program file sorp0502.p to store form code 2. Be sure to include the zero preceding the 2.

You must then define the new formats as valid in sosorp05.p (Sales Order Print).

Printing Picklists

To print a picklist for a sales order, use Sales Order Packing List (7.9.13). You can only print picklists for sales orders not on credit hold—that is, sales orders with a blank Action Status in Sales Order Maintenance (7.1.1).

If you are using containers and shippers, you can use Picklist/Pre-Shipper—Automatic to generate pre-shippers, which are similar to sales order picklists. See “Creating Pre-Shippers Automatically” on page 127.

The picklist shows what items to pick to fill an order and what site or location to pick them from. If you created detail allocations in Sales Order Maintenance—including lot/serial numbers and lot reference numbers—this information appears on the picklist. If you performed a general allocation for the sales order, the system automatically converts the general allocation to a detail allocation when it prints the picklist.

Fig. 3.6
Sample Picklist

Quality Products Inc. Manufacturing Division One World Way Consolidated Business Plaza San Diego, CA 92130 U.S.A.		PACKING LIST Order Number: 10018 Page 1 Order Date: 10/11/06 Print Date: 10/12/06					
Sold To: 01000000 Colossal Conglomerates LTD Suite 100 Colossal Building Colossal Industrial Park 1000 Production Drive Birdsboro, IL 090876 U.S.A.		Ship To: 01000000 Colossal Conglomerates LTD Suite 100 Colossal Building Colossal Industrial Park 1000 Production Drive Birdsboro, IL 090876 U.S.A.					
Salespersons: WL,INC Credit Terms: 30 DUE 30 DAYS FROM INVOICE Remarks: ALL SHIPMENTS PER CORP CONTRACT A-009091		Purchase Order: PO28003-C Ship Via: FED EX FOB Point: ESCONDIDO					
Header comments							
<u>Ln</u>	<u>Item Number</u>	<u>T</u>	<u>Site Location</u>	<u>Lot/Serial</u>	<u>Qty Open</u> <u>Qty to Ship</u>	<u>UM</u>	<u>Due Shipped</u>
1	10-1000		10000	O-138874	1.0		10/12/06
	Oasis (TM) Cooling System					1.0	()
Line item 1 comments							

After printing the picklist, the system updates the values displayed in Sales Order Maintenance for the quantity allocated and quantity picked.

Set Update to No to print a simulated picklist for review without updating the database.

Shipping

To ship an order, use Sales Order Shipments (7.9.15). If using allocations, set Ship Allocated to Yes and Ship Picked to No. If using picklists, set Ship Allocated to No and Ship Picked to Yes.

The system displays all open line items and quantities for the order. Select the line items to ship and specify the quantity. You are prompted to verify the items selected. If Minimum Shipment Amount is Yes in Sales Order Control (7.1.24), a warning displays when the order value in base currency is less than the control program value. This message can also display in Sales Order Maintenance.

When the cumulative quantity shipped for a scheduled line exceeds the maximum order quantity for that line, the system displays a warning message.

After you select and verify items to be shipped, the trailer displays, where you can enter freight or special charges, bill of lading numbers, and carrier information.

When a sales order ships, the system automatically marks it ready for invoicing. To delay invoicing, set Ready to Invoice to No. Enter Yes to have the invoice for the shipped order included in the next invoice post/print cycle.

Managing Containers and Shippers

Programs in the Containerization Menu (7.7) and Shipment Processing Menu (7.9) enable you to record, confirm, and delete/archive container and shipper information, and include support for discrete sales orders.

- Use SO Container Maintenance (7.7.5) to record information on racks, boxes, crates, bags, or other conveyances used to package and transport items or other containers. As with scheduled orders, containers must be defined in Item Master Maintenance (1.4.1) before they can be used in SO Container Maintenance.

Note If you are using Container and Line Charges, items must also be defined as container items before they can be specified.

- Use Sales Order Shipper Maintenance (7.9.8) to record item numbers, quantities, and sales orders being shipped. This function does not update inventory balances or create GL transactions.
- Use Pre-Shipper/Shipper Confirm (7.9.5) to record an individual shipment to a customer and mark it for invoicing, or to automatically post the invoice. To select and confirm multiple shippers at the same time, use Pre-Shipper/Shipper Auto Confirm (7.9.7). Confirming a shipper decreases inventory and updates the general ledger.

See Chapter 6, “Shipping,” for details on shipment processing.

Use Shipper Delete/Archive (7.9.23) to permanently remove shipper records from the system to preserve database space.

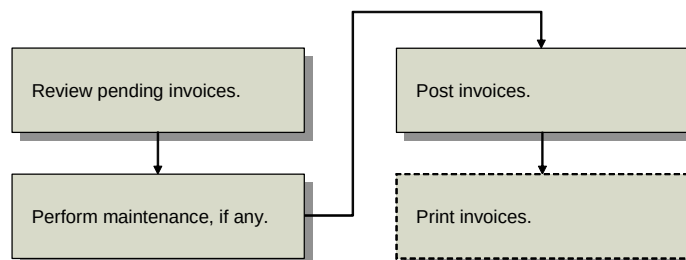
SO Container Maintenance does not support all of the features that may be needed to meet international shipping requirements such as inventory movement codes. If your business needs these features, use Container Workbench (7.7.1), Picklist/Pre-Shipper—Automatic (7.9.1), and Pre-Shipper/Shipper Workbench (7.9.2).

Shipping programs are described in Chapter 6.

Processing Invoices

Shipping an order automatically creates a pending invoice, which you can print in draft format, review, update as needed, and then post and optionally print.

Fig. 3.7
Invoicing Cycle



If you are using containers and shippers, based on a control program setting, these invoices can be posted and printed when the shipment is processed, eliminating the need for separate steps. See “Posting Invoices at Confirmation” on page 147 for details.

Reviewing a Pending Invoice

Before invoicing a shipment, use Pending Invoice Maintenance (7.13.1) to make any changes to invoice information regarding credit terms, commission percentages, prices, and/or discounts. Use Preview Invoice Print (7.13.3) to create a printed copy.

For items shipped from multiple locations, only the following information can be changed:

- Due date
- Interest terms
- Price
- Discount
- Net price
- Commission percentage
- Taxable field
- Tax class
- Comments

Use Sales Order Maintenance (7.1.1) or Sales Order Shipments (7.9.15) to make changes to line item information.

Select Ready to Invoice in Sales Order Shipments (7.9.15) or Pending Invoice Maintenance (7.13.1) to mark invoices for posting and printing. To exclude an invoice, clear Ready to Invoice.

If an item on the invoice has one of the item replacement types defined for it and the invoice date is on or past the item replacement's effective date, you are either prompted to confirm the item replacement or pop-up frames are displayed to select other types of item replacements. See *User Guide: QAD Master Data*.

Note You can also use Pending Invoice Maintenance to create a new pending invoice directly. In effect, this is the same as creating a new order in Sales Order Maintenance.

Posting and Printing Invoices

You can post invoices to AR and print them as a one- or two-step process:

- Run Invoice Post and Print (7.13.4) with Print Invoice set to Yes. The system displays additional fields that apply to the print process.
- Run the program with Print Invoice set to No. No additional fields display. If you choose to print the posted invoices, use Invoice Print or Reprint (7.13.12).

Important This program only selects previously posted invoices for printing. If you want printed copies of invoices before they are posted, use Preview Invoice Print (7.13.3).

Posting an invoice has the following effects:

- Assigns an invoice number based on the invoice daybook defined for the associated daybook set. The system also uses this number as the GL reference.
- Updates General Ledger, debiting the Accounts Receivable and Sales Discount accounts and crediting sales, tax, and trailer charge accounts.
- Updates the customer's open AR balance.
- When the credit terms code on the order calls for staged payments, the system calculates the due date and amount, as well as the settlement discount date, of each installment. This information is stored as part of the customer invoice record.

- When the line entities are different from the header entity, generates intercompany balancing entries based on the intercompany daybook defined for the associated daybook set.
- Updates sales analysis history, including salesperson commission and quota history.
- Updates invoice history. Invoice printing functions use these records.
- When applicable, updates Intrastat data, including associated tax records.
- When Days to Delete a Sales Order is 0 in Legal Document Control (7.10.24), deletes fully completed sales orders. Otherwise, you must delete them manually using Completed Sales Order Delete (7.1.18).
- Updates the installed base in the Service/Support Management module if Ship To Installed Base is Yes in Service Management Control (11.24).
- Updates a setting in the invoice history record that allows it to be selected for printing.
- Generates a report showing invoices posted, corresponding sales order numbers, line item information, and financial amounts.

To determine if items were issued and confirmed or shipped but still require invoice posting, use Sales Order Shipped Not Invoiced (7.15.20).

After an invoice is posted, you can view invoice information and use Customer Invoice Modify to update Accounts Receivable elements such as credit terms, dates, and remarks. You can also enter additional AR-related information, such as invoice status codes associated with contested amounts. See *User Guide: QAD Financials* for details.

Use the initial frame of Invoice Post and Print to select orders based on ranges of order number, ship date, daybook set, sold-to/bill-to address, or language code.

Fig. 3.8
Invoice Post and Print (7.13.4), Selection Frame

Select to display an additional frame.

Additional fields let you control other aspects of the selection process.

GL Effective Date. Enter the date on which accounts are updated based on transactions created by the posting process. This must be within an open GL period. The default is the current date.

Print GL Detail. Specify the level of transaction detail included in the posting output report.

No (default): Transactions are summarized by entity, account, sub-account, and project. For example, if two invoices post to the same Sales account, the report combines the amounts.

Yes: Reporting is based on individual transactions. Invoices posted to the same account are reported on individual lines.

The setting applies to the audit report only. Invoices are always posted at the detail level.

Note The GL Summarization field in GL Correction Control determines the way posting lines are created in the GL. When the field is No, negative and positive lines for the same entity, account, sub-account, cost center, and project create separate transactions. Otherwise, positive and negative postings are netted to produce a single posting line.

Include Debit Invoices. Select to post invoices with a currency value of 0 (zero) or greater.

Include Credit Invoices. Select to post invoices with a currency value of less than 0.

Consolidate Invoices. Select to combine multiple orders into a single invoice. This feature lets you minimize the number of invoices sent to customers.

When this option is set to Yes, the system consolidates lines from all orders matching the selection criteria that have identical values for the following fields:

- Sold-to and bill-to
- Currency
- Exchange rate
- Credit terms
- Tax environment
- Sales entity
- Salespersons
- Trailer codes
- Daybook set

Correction Invoices. Select this option to post correction invoices. These are special invoices created from correction sales orders linked to earlier invoices that have already been posted. This option is relevant only when the correction invoices feature is enabled in Sales Order Accounting Control (36.9.6). See “Correcting Invoices” on page 41.

Important You must post correction invoices separately. When this field is Yes, standard invoices are not selected for posting regardless of the other selection criteria.

Print Invoices. Select to display additional fields that let you print posted invoices without leaving the program. Otherwise, you can print them later using Invoice Print or Reprint (7.13.12).

When this field is No, specify an output device for the invoice post audit report. Otherwise, you can update both that field and the Invoice Print Output field after completing the second frame.

Fig. 3.9
Invoice Post and Print, Print Fields

The screenshot shows a window titled "Invoice Post and Print" with a menu bar containing "Go To" and "ACTIONS". The main area contains the following fields:

- Invoice Date: 04/23/2007 (dropdown menu)
- Entity Address: 10000000 (text field with a magnifying glass icon)
- Print Lot/Serial Numbers Shipped: ☐
- Print Features and Options: ☐
- Override Print Inv Hist: ☐
- Discount Detail: None (text field)
- Discount Summary: None (text field)
- Form Code: 1 (text field)
- Print Only Lines to Invoice: ☐
- Print Call Invoice Detail: ☐
- Message: (text field)

Invoice Date. Enter the date to be printed on the invoice and included in invoice history records. The default is the current date.

Entity Address. Enter the address code representing the corporate entity that is issuing the invoice. This value defaults from Sales Order Accounting Control. Valid codes are defined and associated with business relations in Company Address Maintenance (2.12).

When you enter a code, each printed invoice displays the street address of the associated business relation.

Business forms are designed to print your company name and address in the top left corner so all formal documents can print on blank paper.

To print on paper preprinted with your company name and address, suppress address printing by setting this field to blank.

Print Lot/Serial Numbers Shipped. Select this option to include a list of the lot/serial and lot reference numbers shipped after each invoice line. Otherwise, only the total quantity shipped prints for each line item.

By default, this option is set to No. You can update it only when Print Invoices is Yes.

Print Features and Options. This setting applies only if you ship configured products that are assembled to order (ATO). When you set this option to Yes, the invoice shows each configured item of type ATO, followed by a list of the features and options selected for that item. Otherwise, only the parent item number of the configured product prints. See Chapter 10, "Configured Products," on page 295.

By default, this option is set to No. You can update it only when Print Invoices is Yes.

Override Print Invoice History. Select this option to print invoices that were marked as not to be printed by the Print Inv Hist indicator in the Sales Order Maintenance and Customer Scheduled Order Maintenance functions.

Otherwise, only those invoice history records that have Print Inv Hist set to Yes at the time they were created will print.

Discount Detail. Enter the way in which discount detail is shown on the printed invoices.

None (default): No detail is shown.

Amount: Discount detail is expressed as the currency amount.

Percent: Discount detail is expressed as a percentage of the list price, unless the discount type is Accrual. In that case, it is expressed as a percentage of the net price.

Discount Summary. Enter the way in which discount summary information is shown on the printed invoices.

None (default): No discount summary is shown.

Amount: Discount summary is expressed as the currency amount.

Percent: Discount summary is expressed as a percentage of the list price, unless the discount type is Accrual. In that case, it is expressed as a percentage of the net price.

Form Code. Enter a code identifying the format of the printed document.

The default, system-defined format is identified with form code 1. If required, your company can set up additional formats and assign them different form codes. You can only reference predefined form codes in this field.

Print Only Lines to Invoice. Use this option to control whether all sales order lines are to print, or only those that have quantities that are included in the invoice amount.

When it is Yes, only line items with a non-zero quantity to invoice are printed.

Otherwise, all sales order line items are printed. This is useful since it lists the entire sales order, including all backordered line items.

Print Call Invoice Detail. For invoices related to service calls managed using the SSM module, select this option to print available detail from Call Activity Recording. The information printed depends on the Invoice Detail setting in Call Invoice Recording (11.1.1.15):

When Invoice Detail is Yes, the printed invoice includes all lines of recorded activity.

Otherwise, all lines of detail for the invoice are rolled up, totaled, and displayed as a single line.

When Print Call Invoice Detail is No, none of the detailed information from Call Activity Recording prints on the invoice.

Printing Invoices

Use Invoice Print or Reprint (7.13.12) to perform any of the following tasks:

- Based on several selection criteria ranges, print one or more invoices that have already been posted with Print Invoice set to No in Invoice Post and Print.
- Specify whether credit memos and correction invoices are included in the selection.

Note You can print either correction invoices or standard invoices as part of the same batch—not both. When Print Correction Invoice is Yes, standard invoices are not selected for printing even if they meet the selection criteria.

- Print duplicate invoices by setting Reprint to Yes. The system only selects invoices that have previously been printed, either at the same time they were posted or using this program.

Most fields operate the same way as in Invoice Post and Print.

Invoicing Multiple Shipments

You can make more than one shipment for a sales order before posting and printing an invoice. In such a case, the system assumes there is only one pending invoice, and that quantities for the successive shipments are to be added until the invoice is posted. To separate invoices for each

shipment, post and print the pending invoice after each shipment and before the next. If there is another shipment before the pending invoice is posted, the system prompts you to either delay the next shipment or post the outstanding pending invoice.

Optionally, the system can cross-reference shipper numbers to printed invoices. The Print Shipper Number on Invoices field in Sales Order Accounting Control (36.9.6) controls this feature.

Special Invoice Requirements

The system includes features that support specific local requirements.

Printing

In many countries, it is a legal requirement to print shipping documents, invoices, and credit memos on separate forms, sometimes containing a pre-assigned number provided by a government regulatory agency. This can have different effects on the standard invoice post/print cycle. See *User Guide: QAD Financials* for detailed information on features that support these requirements.

For example, to track value-added tax (VAT) amounts in China, the government requires invoices to be printed using the Golden Tax System. To support this model, special features are available through the Golden Tax Invoice Process menu (7.14) that let you extract selected invoice records and write them to an export file. The records are used as input to the external Golden Tax System. After printing, you import another file that creates cross-references to the Golden Tax invoice numbers. When enabled, the Golden Tax feature modifies the standard invoice post process to assign daybook-generated invoice numbers and optionally consolidate invoices before they are actually posted.

Invoice Rounding

Some countries, such as Switzerland, have legal requirements to round invoice amounts in a specific way. You can use the Enable Invoice Rounding field in Sales Order Accounting Control (36.9.6) to have the system apply a specific rounding method during invoice post. When this field is Yes, Sales Order Accounting Control displays additional frames that let you specify the rounding methods used between combinations of currency, ship-from, and ship-to address. You also specify the GL account and sub-account used to track rounding differences.

When the feature is enabled, when posting an invoice the system attempts to match the sales order ship-from country, ship-to country, and currency with records defined in the control program. If it finds a match, the invoice amount is rounded up or down based on the associated method (defined in Rounding Method Create). Positive or negative amounts that result from rounding are posted to the specified account and sub-account.

If the invoice post process does not find a matching record, no invoice rounding takes place.

Note This function does not control the way taxes are rounded. Before taxes are added to the invoice, calculated amounts are already rounded based on the tax environment setup.

Example For orders inside of Switzerland in Swiss Francs (CHF), the total amount of an invoice must be rounded to a multiple of 5 Rappen, or 0.05 CHF. The detailed rounding specification is as follows:

>0.00 and <0.025 must be rounded down to x.x0

≥ 0.025 and < 0.05 must be rounded up to $x.x5$

> 0.05 and < 0.075 must be rounded down to $x.x5$

≥ 0.075 and < 0.10 must be rounded up to $x.x0$

To meet this requirement using invoice rounding, you must first use Rounding Method Create to define a new rounding method. Enter the following values:

Code: Enter an unused value. This example uses 9.

Description: Describe the new rounding method; for example, Swiss Rounding.

Unit: Enter 0.050.

Threshold: Enter 0.0250.

Next, set Enable Invoice Rounding to Yes in Sales Order Accounting Control and define a rounding record with Switzerland as the ship-from and ship-to country and currency code CHF. Assign rounding method 9 and enter the account information.

With this setup, orders in Swiss Francs that are shipped within Switzerland will have their invoice totals rounded correctly.

Correcting Invoices

You can reverse a billing before an invoice is posted by entering a negative quantity on the original sales order. Then process the invoice normally. This can be done whenever it is necessary to make a change involving an item, quantity, price, discount, or commission.

However, to correct posted invoices, you must create new sales orders with new sales order numbers, then process the new, corrected sales orders normally. To streamline this process, you can use the correction invoice feature enabled in Sales Order Accounting Control (36.9.6).

When this is enabled, you can create a correction sales order for a posted invoice by entering the correct amounts rather than by entering the difference between the original invoice and the correct amount. You can also keep track of the relationship between the original invoices and their correction invoices.

After creating the correction sales order, you ship it, optionally creating a shipper document. You can post and print the correction invoice—displaying the original amounts, the corrected amounts, and the differences between the two. Finally, you can archive correction invoice data when it is no longer needed.

Correction invoices are a legal requirement in some countries and a preferred accounting approach in others.

Control correction invoice processing by:

- Enabling the feature in Sales Order Accounting Control
- Creating correction reason codes in Reason Codes Maintenance (36.2.17) with a reason type of CORRINV

Note Correction invoices have the following limitations:

- They cannot be used for configured items.
- They cannot be used to modify container and line charges.

- They do not automatically pick up changes to master data such as freight rates, price lists, or tax rates. Such changes need to be manually entered in the correction order.
- Only one correction invoice can be used to correct an original invoice. If further corrections are required, you must add another correction invoice to correct the first correction invoice. Links are made between all corrections and the original invoice.

Creating Correction Sales Orders

When Use Correction Invoices is Yes in Sales Order Accounting Control, the way you create orders in Sales Order Maintenance (7.1.1) changes. After you enter a new sales order number—or leave the field blank for a system-supplied number—you are prompted to enter the number of an existing invoice to be corrected by this order. You can leave the field blank to create a standard order.

If you specify an invoice number, the associated sales order number displays. You then specify a reason for the correction, selecting a code with reason type CORRINV.

Fig. 3.10
Sales Order Maintenance (7.1.1)

Specify an invoice number to create a correction.

Sales order defaults from the invoice specified.

Specify a reason for the correction.

When you click Next, the data from the original invoice is copied into the correction sales order. You can make corrections to the invoice details and the trailer amounts. To correct data in the invoice details, you must select the original line in the sales order detail frame. After this, the original line is displayed and the correction line can be updated.

Fig. 3.11
Sales Order Maintenance, Corrected Sales Order Line

The screenshot shows the 'Sales Order Maintenance' window for Sales Order SO216. The 'Header' section displays 'Order: SO216', 'Sold-To: matcust', 'Ln For: Single', and 'Org: 2007/Invoice000000010'. Below this is the 'CORRECTED SALES ORDER LINE' table with one line item (Ln 1) for 'mat-1' with a quantity of 10.0, unit 'ea', list price of 10.00, discount of 0.0, and net price of 10.00. The 'Line Details' section shows 'Sales Acct: 3000'. Below that is the 'Original Invoice Line' table with one line item (Ln 1) for 'mat-1' with a quantity of 10.0, unit 'ea', list price of 10.00, and C1-DISC of 0.0. At the bottom, various fields are displayed: 'Qty Picked: 0.0', 'Due Date: 04/24/2007', 'Consume Fcst: ☒', 'Qty Shipped: 0.0', 'Perform Date: 04/24/2007', 'Detail Alloc: ☐', 'Qty to Invoice: 0.0', 'Pricing Date: 04/23/2007', 'Taxable: ☐', 'Salesperson 1:', 'Multiple: ☐', 'Freight List:', 'Commission 1: 0.00%', 'Category:', 'Fixed Price: ☒', and 'Comments: ☐.

The quantity, list price, discount, lot/serial number, site, and location can all be corrected by entering the correct values in the corresponding fields. In the background, the system calculates the differences between the original invoice and the corrections.

In the trailer of the sales order, the original values of the posted invoice are displayed as well. You must enter the difference between the original amounts and the corrected amounts. For example, if the freight charge in the original invoice is 150 and it should have been 155, then you enter a value of 5 here.

Processing Correction Orders

After the correction sales order has been entered, it should be processed like a normal sales order, except that it must be fully shipped before it can be posted and printed.

To ship a correction sales order, use Sales Order Shipments (7.9.15). If the quantity has been corrected so that goods are issued or returned, a shipper can be generated in this program. See “Sales Order Shipments” on page 173.

Post correction invoices separately using Invoice Post and Print (7.13.4) by selecting Correction Invoice; correction invoices have a different format than standard invoices. The correction invoice displays three sections for line items and trailer amounts:

- Before Correction: the original value
- After Correction: the corrected values
- Correction: the difference between the original and the corrected values

Note Correction invoices cannot be consolidated.

Reporting Correction Invoices

Two reports can be used with correction invoices.

- The Correction Invoice Link Report (7.13.6) displays the relationship between original invoices and their associated correction invoices. You can select a range of invoice numbers for which you want to see the correction invoices. The report can also be used to display the original invoices when you enter the selected range of correction invoices. This selection depends on the setting of the Sort by Original Invoice Number field.
- Use Invoice History Report (7.13.8) to view correction invoices by setting Correction Invoices to Yes.

Archiving Correction Invoices

Use Archive Correction Invoices (7.13.22) to remove correction invoices and their associated link information from the system when online history is no longer needed.

Processing Returns

You can process returns using sales order functions or using the Return Material Authorization feature of the Service/Support Management module. See *User Guide: QAD Service/Support Management* for more information.

Using sales order functions, the method for processing a return depends on whether the sales order involved is open or closed and whether the line item involved is open or closed. Use Sales Order Shipments (7.9.15) to process returns.

If the sales order and line item are both open at the time of return:

- 1 Enter the line item for the item being returned.
- 2 Enter the quantity returned as a negative amount.
- 3 Enter the location where the item was restocked.

If the sales order is open at the time of return, but the line item is closed:

- 1 Add a new line item for the returned material.
- 2 Add the line item as a negative amount to the original, open sales order. The return is then processed as negative receipt.

If the sales order is closed at the time of return:

- 1 Create a new sales order to receive the item.
- 2 Enter the returned quantity as a negative amount.
- 3 Reference the original, closed sales order in the comments area of the new sales order. The system then processes the return as negative receipt.

Credit Invoices for Returned Goods

The system creates credit invoices for returns to stock. A credit invoice credits a customer's account for the amount of any returned material plus applicable taxes. Process credit invoices just like regular invoices.

Generating Reports

You can generate a number of reports related to sales orders and invoices.

Table 3.1
Sales Order Reports

Menu	Report	Description
7.13.6	Correction Invoice Link Report	Displays the relationship between original invoices and their associated correction invoices.
7.13.8	Invoice History Report	Generates a report on invoicing activity.
7.13.15	Invoice Price History Report	Generates a report based on history records created whenever there is a pricing change. These records include details about the source of the price and discount per order/line.
7.15.1	Sales Order by Order Report	Generates a report of selected sales order activity sorted by order number.
7.15.2	Sales Order by Customer Report	Generates a report of selected sales orders activity sorted by customer.
7.15.3	Sales Order by Item Report	Generates a report of selected sales order activity sorted by item number.
7.15.5	Sales Order Gross Margin Report	Displays information relevant to commissions and profitability for selected sales orders.
7.15.7	Sales Order Pricing Report	Generates a report based on history records created whenever there is a pricing change. These records include details about the source of the price and discount per order/line.
7.15.9	Unconfirmed Sales Order Report	Generates a report of selected sales orders that need to be confirmed.
7.15.11	EMT Tracking Report	Generates a report on the status of selected EMT sales orders and related purchase orders.
7.15.12	Orders To Ship Report	Displays information about the following types of orders from a single program: • Sales orders • Material orders • Customer scheduled orders • Distribution orders
7.15.14	Booking Transaction Report	Generates a report based on transaction booking history, in summary or detail format. If Keep Booking History is Yes in Sales Order Control, a complete audit trail of all changes is maintained (in tr_hist) along with the revision number.
7.15.15	Booking Transaction Summary by Item	Generates a summary report of total quantity sales and gross margin summarized by item number into daily, weekly, or monthly buckets.

Menu	Report	Description
7.15.18	Shipment Transaction Report	This report generates a report of sales orders shipment transactions (based on transaction history) during a specified range of dates.
7.15.19	Shipment Transaction by Customer Report	Generates a report of sales orders shipment transactions and gross margin sorted by customer.
7.15.21	Transaction Summary by Item Report	Generates a report of sales orders shipment transactions sorted by item number and summarized into daily, weekly, or monthly buckets.
7.15.22	Transaction Summary by Customer Report	Generates a report of sales orders transactions sorted by customer and summarized into daily, weekly, or monthly buckets.
7.15.23	Transaction Summary by Customer by Item Report	Generates a report of sales orders transactions sorted by customer and item number and summarized into daily, weekly, or monthly buckets.

Container and Line Charges

This chapter describes features of the Container and Line Charges (CLC) module. It describes the setup prerequisites, the setup procedure, and how the module is used.

Container and Line Charges Overview 48

Introduces container and line charges concepts and features.

Implementation Planning 52

Describes which tasks must be completed before tracking and invoicing container and line charges or assigning and tracking shipping codes and shipping information.

Setting Up Container and Line Charges 54

Details how to set up the module using information from the previous section.

Using Container and Line Charges 64

Details new fields and charges that display and run when container or line charge features are activated.

Sample Programs 70

Outlines how to use custom Progress programs to customize charge calculation programs to calculate container and line charges in the Run Program field of Charge Type Maintenance.

Container and Line Charges Overview

In a highly competitive marketplace, the ability to track and invoice shipping containers associated with sales order lines, as well as tracking and invoicing other miscellaneous charges, are essential elements in an effective supply chain. Companies need a simple, fast, and effective mechanism to capture, review, and invoice shipping expenditures and miscellaneous information at the order-line level.

The Container and Line Charges (CLC) module provides suppliers a way to track and invoice customers for:

- Shipping containers, such as pallets, crates, or bins
- Extra line charges, such as shipping, painting, and detailing

Line charges and container charges are added at the order line-item level.

This module also supports the setup of flexible data entry points during the shipping process for recording and tracking shipping codes or related shipping information.

Using container and line charge functions, you can:

- Create unique container items based on items currently defined in the system.
- Create price lists for container items or ship-to and container item combinations.
- Create customized calculation methods to find extended prices for container or line charges.
- Set specific control options based on ship-from and ship-to combinations.
- Add miscellaneous line charges to sales orders, pending invoices, and scheduled orders. Optionally add them in container and shipper programs.
- Add container item charges to sales orders, pending invoices, and scheduled orders. Reference sales order line items and associated container charges in container and shipper programs.
- Track shipping codes such as AETC on scheduled orders, shippers, and ASNs.
- Create customized validation programs to validate shipping codes.
- Optionally include container charge and line charge details on ASNs.
- Specify the level of detail to print on invoices for container charges and line charges.

Container Charges

Container charges can be assessed for any kind of container used during shipment, such as expendable containers or any container not already accounted for on the sales order line. You can predefine container charge amounts for each container item or for a specific container being sent to a specific customer. Container charges can also be calculated per unit, at a flat rate, or at a user-defined rate using customized external calculation routines.

Example A produce packing house ships oranges to a juice-processing plant in returnable wooden crates. When the processing plant does not return the crates in a timely manner for reissue, the packing house must ship the oranges in disposable re-enforced cardboard crates. Because the customer did not return the wood crates in a timely manner, the packing house shipping clerk assesses a container charge at the line level for each disposable cardboard crate shipped to that customer.

You can assess container charges in the following functions:

- Sales Order Maintenance (7.1.1)
- Pending Invoice Maintenance (7.13.1)
- Customer Scheduled Order Maintenance (7.3.13)

The system references container information in the following functions:

- Container Workbench (7.7.1)
- SO Container Maintenance (7.7.5)
- Sales Order Shipper Maintenance (7.9.8)
- Pre-Shipper/Shipper Workbench (7.9.2)

Line Charges

Line charges are any general or miscellaneous charges assessed on a sales order line. When you apply a line charge, you must specify a trailer code, and you may specify a corresponding line charge type code. Line charge amounts can be specified at the line-item level or calculated by an external user-created calculation or validation program associated with the charge type code.

Line charges display on the invoice with the trailer code associated at the time the charge was assessed. Trailer codes let you track line charges for General Ledger (GL) purposes and reporting.

See *User Guide: QAD Master Data*.

Example An engine supplier sends assembled engines to a customer site in returnable shipping crates. If the customer does not return the crates in a timely manner, the supplier runs out of shipping crates. In order to continue shipping the engines, the supplier requires additional time and labor to package and secure the engines on regular pallets. Using the line charge functions, the supplier can assess charges at the line level for the added labor costs associated with packaging each engine for shipment.

You can always assess additional charges on an order line item in the following maintenance programs:

- Sales Order Maintenance (7.1.1)
- Customer Scheduled Order Maintenance (7.3.13)
- Pending Invoice Maintenance (7.13.1)

You can also use Order Line Charge Maintenance (7.22.13) at any time to update line charges directly.

Depending on control program settings, you may also be able to add and modify line charges while maintaining containers and shippers in:

- Container Workbench (7.7.1)
- SO Container Maintenance (7.7.5)
- Pre-Shipper/Shipper Workbench (7.9.2)
- Sales Order Shipper Maintenance (7.9.8)

Charge Type Codes

When a container charge or a line charge is assessed, a corresponding charge type code is assigned. Charge type codes apply to either container charges or line charges and reference an external calculation or validation program to execute.

You can define as many charge type codes as you need using Charge Type Maintenance (7.22.1). You assign a Progress program to each charge type that the system runs to perform an extended price calculation for the charge.

See “Create Container Charge Type Codes” on page 55.

Trailer Codes

When a line charge is assessed, a corresponding trailer code is also assigned to the line item. When an invoice is printed for a sales order, the line charges appear on the trailer with the associated trailer codes. Using specifically defined trailer codes, you can easily group your line charges for tax or reporting purposes.

See “Set Up Trailer Codes for Line Charges” on page 62.

Effect of Activating CLC

When you activate this module, features are added to various programs, including CLC data collection frames and fields. The added features help capture, maintain, invoice, and report CLC data. When you deactivate this module, the modified programs again operate as before.

Table 4.1 shows the programs modified when this module is activated.

Table 4.1
Programs Modified for CLC Module

Menu	Description	Program
7.1.1	Sales Order Maintenance	sosomt.p
7.1.3	Sales Order Print	sosorp05.p
7.3.13	Customer Scheduled Order Maintenance	rcsomt.p
7.7.1	Container Workbench	rcctwb.p
7.7.5	SO Container Maintenance	rcctmt.p
7.9.1	Picklist/Pre-Shipper – Automatic	sososl.p
7.9.2	Pre-Shipper/Shipper Workbench	rcshwb.p
7.9.4	Pre-Shipper/Shipper Print	rcrp13.p
7.9.5	Pre-Shipper/Shipper Confirm	rcsois.p
7.9.8	Sales Order Shipper Maintenance	rcshmt.p
7.9.9	Sales Order Shipper Print	rcrp11.p
7.9.15	Sales Order Shipments	sosois.p
7.9.20	Undo Shipper Number Assignment	rcslrb.p
7.9.21	Shipper Unconfirmed	rcunis.p
7.9.22	Shipper Gateway	rcshgw.p
7.9.23	Shipper Delete/Archive	rcscdel.p

Menu	Description	Program
7.13.1	Pending Invoice Maintenance	soivmt.p
7.13.2	Pending Invoice Register	soivrp.p
7.13.4	Invoice Post and Print	soivpst.p
7.13.8	Invoice History Report	soivrp09.p
7.13.12	Invoice Print or Reprint	sosorp10.p
7.13.23	Invoice History Delete/Archive	soivup.p
35.4.1	Shipment ASN Export	edomasn.p

Table 4.2 lists reports that include CLC data.

Table 4.2
Reports Displaying CLC Data

Menu	Description	Program
7.3.14	Scheduled Order Inquiry	rcsoiq.p
7.3.15	Scheduled Order Report	rcsorp.p
7.7.2	Container Inquiry	rciq03d.p
7.9.3	Pre-Shipper/Shipper Inquiry	rciq03.p
7.13.8	Invoice History Report	soivrp09.p
7.13.12	Invoice Print or Reprint	soivrp10.p
7.15.1	Sales Order by Order Report	sosorp.p
7.15.2	Sales Order by Customer Report	sosorp01.p
7.15.7	Sales Order Pricing Report	sopirp01.p
7.15.9	Unconfirmed Sales Order Report	sosorp16.p

Table 4.3 lists the programs on the Container and Line Charges (7.22) menu.

Table 4.3
Container and Line Charges Programs

Menu	Description	Program
7.22.1	Charge Type Maintenance	cctmt.p
7.22.2	Charge Type Inquiry	cctiq.p
7.22.5	Ship-To/Container Charge Maintenance	ccscmt.p
7.22.6	Ship-To/Container Charge Inquiry	ccsciq.p
7.22.7	Ship-To/Container Charge Report	ccschr.p
7.22.10	Container Item Maintenance	ccpmt.p
7.22.11	Container Inquiry	ccpiq.p
7.22.12	Container Data Report	ccprp.p
7.22.13	Order Line Charge Maintenance	rcslcmt.p
7.22.15	Ship-To Control Maintenance	cclspm.p
7.22.16	Ship-To Control Inquiry	cclsiq.p
7.22.17	Ship-To Control Report	cclspr.p
7.22.19	Container Usage Report	ccurp.p
7.22.24	Container/Line Charge Control	cclpm.p

Implementation Planning

This section discusses the tasks you must complete before you can begin tracking and invoicing container and line charges or assigning and tracking shipping codes and shipping information.

Before you begin setup tasks, review all module information. Once you understand the features and setup requirements, collect the information detailed in the following sections. Only then should you proceed with the setup steps outlined in the next section.

The complexity of setting up this module depends greatly on your shipping environment. Clearly defined requirements simplify the setup process. The following sections explain and show examples of the information you need to collect before you can set up this module.

Container Charge Requirements

Compile a list of all items in your shipping environment used as containers for which you need to charge your customers or that you need to track through your shipping environment. Containers may include shipping pallets, crates, bins, or special packaging materials.

This shipping container information is used to create *container items*. These items are defined in the item master (pt_mstr) but have additional container details, including:

- A container description
- Whether to apply a charge when the container is used
- A charge type code
- A container item type code

After compiling the list of containers used in your environment, add the following details to the items on your list:

- The amount you normally charge your customers when this item is used as a container, rather than sold as an item. These prices are used when defining the container item. See “Setting Up Container Charges” on page 54.
- Any special pricing agreements you may have with specific customers. For example, you charge out-of-town customers \$15.00 per pallet used to ship their orders. A pallet charge is not imposed on local customer deliveries because pallets are returned upon delivery. See “Create Control Program Exceptions” on page 60.

This information is used to create ship-to control records.

- Any charge calculations used to find extended prices for a container item. For example, the charge for a shipping bin is the greater of \$15.00 or \$.50 times the number of items shipped in the bin.

This information is used to design and code custom Progress programs that determine the extended price for containers affected by special pricing agreements. See “Create Container Charge Type Codes” on page 55.

- Any price variations a container item is subject to due to seasonal or time-related constraints. For example, in the food and beverage industry, raw materials may require more expensive packaging during hot summer months, but less expensive packing materials in more temperate months.

This information is used to create ship-to/container charge records. See “Set Up Container Charge Amounts” on page 57.

Line Charge Requirements

Compile a list of all the types of charges and amounts that are applied to line items. These charges are known as *line charges*, which are additional fees imposed on a line item. They can include any type of charge at the line-item level, such as painting, polishing, setup, handling fees, or special order fees such as hazardous material handling charges.

Example A quantity of 1,000 pieces of item B is sold for a price of \$1.00 per unit. The extended price is \$1,000. In addition, item B has a special handling charge of \$20; this is a line charge. A setup charge of \$30 is also applied as a line charge. The total line-item charge for item B is:

$$\$1,000 + \$20 + \$30 = \$1050$$

Of this amount, \$50 is the additional line charge amount.

Like container charges, you can use an external calculation or validation program with line charges. In the previous example, you could create an external program to find the extended price each time the specific charge is made on a line item, or to validate that the customer can be charged for these services according to predefined contractual agreements.

If this is a requirement in your environment, collect these calculation or validation requirements along with your charge type records.

Shipping Code Requirements

You can set up user fields in Rule Definition Maintenance (7.9.11.1) that let you assign shipment-related codes for any shipment or shipment line while working on the shipper. You can set up default codes, or prompt users for code values.

See “Validating Shippers” on page 155s.

Example Some of your customers require that you indicate airbill numbers for each sales order. With user fields, you can set up the system to prompt the shipping clerk for this number when the shipper is confirmed.

If your shipping environment has any shipment code collection requirements, you should compile a list of these requirements based on the codes, form numbers, or type of information needed by each customer. For example, note whether any customers require AETC codes, or airbill numbers for their shipments. Note whether those codes should be associated with the shipper header, shipper lines, specific shipper fields, or should have other reference information included.

You can collect any shipment-related codes and numbers. Different industries require various types of codes or numbers, such as:

- Airbill numbers
- Pull point numbers
- Carrier reference numbers
- Airport codes
- Freight bill numbers

- Packing list numbers

Setting Up Container and Line Charges

Setting up this module requires careful planning. Before you proceed with the tasks in this section be sure you have collected the information detailed in the planning section.

This module has three distinct features:

- Container charges let you assess, trace, and invoice container charges for specific order lines.
- Line charges let you assess, trace, and invoice line charges for specific order lines.

You can choose to activate only container charges, only line charges, or both.

The following sections discuss the setup of each feature individually, even though they share some setup tasks. This makes it easier to implement only the features you need.

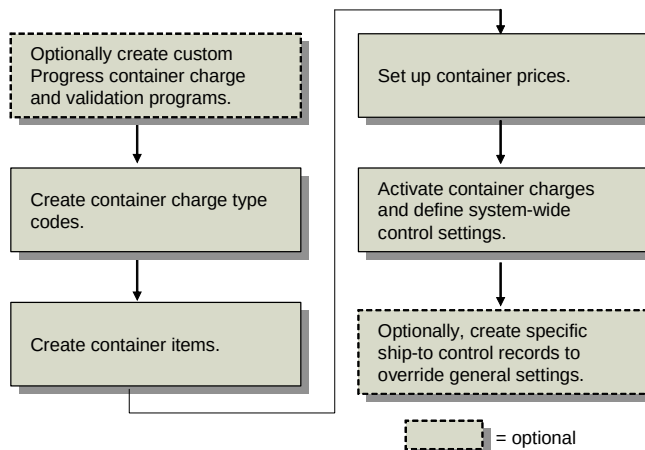
Setting Up Container Charges

Setting up the container charge functions involves the following tasks:

- Design and code custom Progress container charge and validation programs.
- Create container charge type codes.
- Create container items and associate them with optional container groups.
- Set up container prices.
- Activate container charges in the control program and define general control settings.
- Create control records for specific ship-to addresses to override general container charge settings.

Figure 4.1 shows a typical container charge setup workflow. Some environments do not require every setup step. For example, in some environments the control program settings apply throughout the system to all ship-to addresses and containers. In other environments, control program settings need to be changed for specific combinations of ship-to address and container. In these environments, additional setup steps are required to create ship-to control records to override the control program container charge settings.

Fig. 4.1
Container Charges Setup Workflow



Create Container Charge Type Codes

Charge type codes are used when applying a line charge or container charge to manage and calculate the line and container charge amounts. Each code consists of a unique name, a short description, an indicator specifying whether it is used for line charges or container charges, and an optional external calculation or validation program to execute.

Use Charge Type Maintenance (7.22.1) to create charge type codes. Each charge type references a Progress program used to calculate the charge amount. The program calculates the charge amount before the extended price is posted on the invoice.

Since calculating a container charge amount can be a highly customized, multistep process, you can use your own custom Progress programs or either of two system-supplied charge type calculation programs to calculate the extended container charges.

When the shipper is confirmed, the container base price and charge type is retrieved from the container price table. Container prices are defined in Ship-To/Container Charge Maintenance (7.22.5) for combinations of ship-to addresses and container items. If a price list has not been defined, the price in the item master is used.

The Progress program associated with the charge type is used to calculate the extended price of the container. The two system-supplied charge type calculation programs are:

- `cctflat.p` calculates the container flat charge by multiplying the container price by the number of containers.
- `cctunit.p` calculates the container unit charge by multiplying the number of items in a container by the container price. This amount is then multiplied by the number of containers.

$$\text{Charge} = \text{Container Price} * \text{No. of Containers}$$

$$\text{Charge} = (\text{Items in Container} * \text{Container Price}) * \text{No. of Containers}$$

See “Sample Programs” on page 70.

You can use these two system-supplied programs as models for building your own calculation programs. All your custom programs must be compiled and placed in the appropriate two-character directory where your code is located. For example, the custom program `linesort.p` goes in the `us\li` directory. The custom program `contsort.p` goes in the `us\co` directory.

See the installation guide for your system for the location of code.

Example The `cctunit.p` program is specified in the Run Program field. As input, it receives a price from the price list defined in Ship-To/Container Charge Maintenance (7.22.5). It takes the number of items placed in the container and calculates the extended price as the number of item multiplied by the price on the price list.

Fig. 4.2
Charge Type Maintenance (7.22.1)

Charge Type. Enter an eight-character code identifying a charge type. Some examples of charge types are FlatFee, PerUnit, and Fragile.

Applies To Container/Line. Enter Container to indicate the charge type applies to containers. After you define the charge type as a container, it must always be applied that way. For example, you cannot apply a container charge type to a line item or a line charge type to a container.

Description. Enter a brief description of the container charge type.

Run Program. Enter the name of the Progress program used to calculate the extended price for containers that reference the charge type. If you have not created your own programs, enter either of the two system-supplied programs. See page 55.

Create Container Items

If a container item is not already in the system, you must first create it in Item Master Maintenance (1.4.1). Once the item is defined, you can associate container information with it using Container Item Maintenance (7.22.10). Container information is saved in the container item detail table (`ptc_det`).

Container information is used only when the container item is associated with an order line using the container charge functions. If a container item is placed on an order as an item, the container information is disregarded and the information in the item master is used instead.

You can optionally group container items by container type. The field is not validated. Container type displays on reports and inquiries.

Note When you use Item Master Copy (1.4.12) to create a new item, only data from the item master is copied. If the source item has also been defined as a container item, container item detail is not copied. You must re-enter container information for items created by copying container items.

Fig. 4.3
Container Item Maintenance (7.22.10)

Container. Enter the item previously defined in Item Master Maintenance (1.4.1) to define as a container item.

Description. Optionally enter a description (up to 24 alphanumeric characters) for this container item.

The container description prints before the item description on various reports and inquiries.

Apply Charges. This field indicates whether charges should be applied when the container is used.

No: Charges are not applied when the container is used.

Yes: The charge type is applied to all order lines using this container.

Set Apply Charges to No for container items that are invoiced without a charge amount. This might include returnable containers not requiring a deposit or nonreturnable containers when the container cost is included in the product's price.

Charge Type. Enter the charge type to use to calculate the charge amount for the container. Use Charge Type Maintenance (7.22.1) to create charge types.

When Apply Charges is Yes, you must specify a value. When Apply Charges is No, entering a charge type has no effect.

Container Type. Optionally enter a user-defined type code (up to 16 alphanumeric characters) associated with this container. Codes are not validated. They display on some reports and inquiries.

Set Up Container Charge Amounts

Use Ship-To/Container Charge Maintenance (7.22.5) to create records defining the amount charged for specific container items or specific container items used at specific ship-to addresses. You can set up these records in different currencies and with different charge amounts based on one or multiple date ranges. Typically, the charge amount is per container.

Each record is defined by a combination of ship-to, container, and currency:

- Define records with a blank ship-to address to indicate that the charge amount applies to the specified container regardless of where it is shipped.
- Define records with a ship-to address to indicate that the charge amount applies to the container only when used for shipments to that address.

The charge type you specify in this program overrides the charge type associated with the container item in Container Item Maintenance (7.22.10).

Each record has an associated pricing schedule, defined in the Price Detail Data frame. The schedule indicates the charge amount based on a date range specified in the Start and Expire date fields. To delete a date range, press Delete in the Price or Reference field.

When a container charge applies to an order line, the system searches for a charge amount for the ship-to and container item using the document currency and current date. An extended price calculation program associated with the charge type uses the charge amount to calculate the extended price.

A pricing schedule is useful when charge amounts change according to predefined seasonal time periods or other time-related factors. If you apply a charge during a period not covered on the schedule, the system uses the item master price for the container item to calculate the extended price.

Use these steps to set up a charge schedule:

- 1 Optionally enter a ship-to address on the header.
- 2 Enter the container, currency, and charge type.
- 3 Enter the start and expire date for the date range. Use the mm/dd/yy format; for example, October 19, 2002, is noted as 10/19/02.
- 4 Enter the price for the date range. You can optionally enter reference data.

Warning When entering multiple date ranges, make sure they do not overlap.

Example The price for item 003 is \$4.25 in Item Master Maintenance (1.4.1). The container price you typically charge for this item is \$4.50. For production year 2002, the price will fluctuate as follows: \$4.75 in June, \$5.00 in July, \$5.25 in August, and \$4.25 in October. Enter the date ranges for this requirement as shown in Table 4.4:

Table 4.4
Sample Date Ranges in
mm/dd/yy Format

Start	Expire	Price
01/01/02	05/31/07	4.50
06/01/02	06/30/07	4.75
07/01/02	07/31/07	5.00
08/01/02	08/31/07	5.25
09/01/02	09/31/07	4.75
11/01/02	12/31/07	4.50

Note Since a date range is not indicated for October, the price defined in Item Master Maintenance is used that month.

Fig. 4.4
Ship-To/Container Charge Maintenance (7.22.5)

Ship-To/Dock	Container	Cur	Charge Type
00010010	box1	USD	Contchg

Price Detail Data			
Start	Expire	Price	Reference
04/23/2007	04/30/2007	2.00	
05/01/2007	05/31/2007	2.25	
06/01/2007	09/30/2007	2.50	

Ship-To/Dock. Optionally enter the ship-to or dock address to use as part of the ship-to/container record. Leave this field blank if you want the price details to apply to all ship-to addresses without associated ship-to/container records.

Container. Enter the container item to use as part of the ship-to/container record. You must specify an item previously defined in Container Item Maintenance (7.22.10). This field is required.

The price details apply to the specified container only. When both a ship-to and container are specified, the price details apply to the container only when shipped to the specified ship-to.

Cur. Enter the currency of the price schedule. Currency codes identify monetary units and form the basis of exchange rate relationships.

The base currency of the domain displays by default. When container charges are added to sales orders and scheduled orders, the system searches for prices using the order currency.

Charge Type. Enter a container charge type to associate with this record. The value of Applies To Container/Line in Charge Type Maintenance (7.22.1) must be set to Container for the charge type specified.

If Apply Charges is No for the charge type, it can be used as a reporting identifier.

Start. Enter the first date (in mm/dd/yy format) when this record should be considered active.

Expire. Enter the last date (in mm/dd/yy format) when this record should be considered active.

Price. Enter the container price for the associated date range. Price is expressed in the currency specified in the Currency field.

During the date range, the amount specified in Price is used by the program associated with the charge type to find the extended container price. If Apply Charges is No for the charge type, the prices are not applied.

Price defaults from the item master (pt_mstr) record.

Reference. Optionally enter a reference (up to 30 alphanumeric characters) for the active date range and price amounts. For example, enter a purchase order number or any general comment indicating why the price was set for the associated date range.

This value can display on various reports.

Set Up System-Wide Default Container Information

Use Container/Line Charge Control (7.22.24) to activate container charge functions.

Note Container charge and line charge functions can be used separately or together.

The values you define here default to corresponding fields in Ship-To Control Maintenance (7.22.15). Use that program to change this value for specific combinations of ship-from sites and ship-to addresses

Fig. 4.5
Container/Line Charge Control (7.22.24)

Use the following descriptions to enter values for the container-related fields:

Enable Container Charges. Enter Yes to activate the container charge functions.

For a list of program changes that take place when you enable container charges, refer to Container Charges. See page 48.

Summary Only on Invoice: Container Charges. Indicate how container charges display on invoices.

No: Container charge details print at the end of the invoice, including the container item number, the quantity of container items used, the price per container item, and the total charges. The charge amounts are subtotaled and display in the Container trailer field. This subtotal is included in the invoice total.

Yes: Container charge details do not print on the invoice. Container charge amounts are subtotaled and display in the Container trailer field. This subtotal is included in the invoice total.

Include on ASN: Container Charge. Indicate whether to include the container charge and description on the ASN.

No: The container charge information is not sent.

Yes: A detail line for each container charge is sent on the ASN. Currently, the ASN does not include pricing information.

Create Control Program Exceptions

Use Ship-To Control Maintenance (7.22.15) to create control records that override the settings in Container/Line Charges Control for specified ship-from and ship-to combinations.

Most of the field values in this program default from corresponding fields in the control program. The field descriptions in the control program also apply to the fields in this program.

Note The settings in this program only apply to the specific ship-from/ship-to combination specified in the header frame.

Fig. 4.6
Ship-To Control Maintenance (7.22.15)

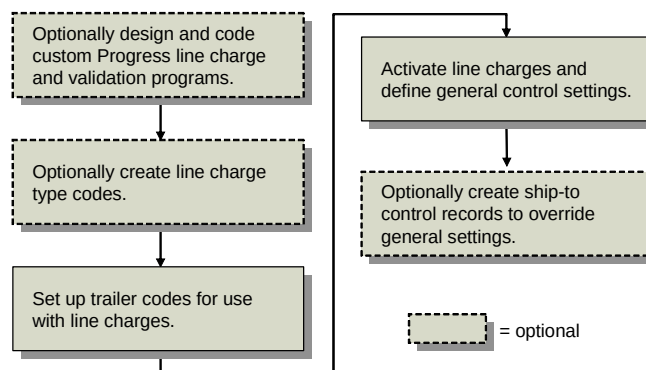
Setting Up Line Charges

Setting up the line charge functions is very similar to setting up the container charge functions. It involves the following tasks:

- Design and code custom Progress line charge and validation programs.
- Optionally create line charge type codes.
- Set up trailer codes for use with line charges.
- Activate line charges in the control program and define domain-wide control settings.
- Optionally, create ship-to control records to override control program line charge settings.

Figure 4.7 shows a typical line charge setup workflow. Some environments do not require every setup step. For example, in some environments the control program settings apply throughout the system to all ship-to addresses. In other environments, control program settings need to be changed for specific ship-to addresses. In these environments, additional setup steps are required to create ship-to control records to override the control program line charge settings.

Fig. 4.7
Line Charges Setup Workflow



Create Line Charge Type Codes

Charge type codes can be used when applying a line charge as well as a container charge. However, while charge types are required with container charges, they are optional with line charges. If you decide to implement them, use Charge Type Maintenance (7.22.1) to create charge type codes for line charges.

Specify Line for Applies To Container/Line to indicate that the charge type is used for line charges.

Fig. 4.8
Charge Type Maintenance (7.22.1)

Line charges can be calculated similarly to container charges by associating a Progress program with the line charge type to calculate the extended charge amount. Unlike container charges, you cannot define price lists for line charge. Line charge amounts are specified at the line level when the charge is applied.

When you apply a line charge, a trailer code must be entered, but a charge type is optional. As with container charges, the charge type can reference an external calculation or validation program. The trailer code is used to manage GL and tax details for the charge.

Set Up Trailer Codes for Line Charges

An additional line charge is a special kind of trailer code that applies to a line rather than to an entire order. Use Trailer Code Maintenance (2.19.13) to create trailer codes for your line charges.

Fig. 4.9
Trailer Code Maintenance (2.19.13)

The trailer code details let you specify a GL account for reporting line charge amounts and let you indicate if the charge is taxable.

Set Up Default Line Charge Information

Use Container/Line Charge Control (7.22.24) to activate line charge functions in the current domain.

Note Container charge and line charge functions can be used separately or together.

The values you define here default to corresponding fields in Ship-To Control Maintenance (7.22.15). Use that program to change this value for specific combinations of ship-from sites and ship-to addresses.

Fig. 4.10
Container/Line Charge Control (7.22.24)

Use the following descriptions to enter values for the fields in the first frame:

Enable Line Charges. Enter Yes to activate the line charge functions of the Container and Line Charges module.

When set to Yes, you can associate up to 999 additional line charges with a line item on a sales order or shipper.

When the system applies line charges to an order, you can specify charge type and charge amount (charge type is optional). The extended charge can be calculated using the charge type. Line charges associated with sales orders can be defined as one time only or recurring. Line charges on shippers are always one time only.

For a list of program changes that take place when you enable line charges is included in the overview.

See “Line Charges” on page 49.

Edit Line Charges on Shipper. Indicate whether line charges can be modified on shippers:

No: Only the line charges from the sales order apply to the shipper. Deleting or modifying existing line charges or adding new line charges is allowed only in Sales Order Maintenance (7.1.1), Pending Invoice Maintenance (7.13.1), Customer Scheduled Order Maintenance (7.3.13), and Order Line Charge Maintenance (7.22.13).

Yes: The line charges from the sales order are added to the shipper. You can delete, modify, and add new line charges when building the shipper.

When this field is Yes, the Additional Line Charges frame displays in the following programs:

- Container Workbench (7.7.1)
- SO Container Maintenance (7.7.5)
- Pre-Shipper/Shipper Workbench (7.9.2)
- Sales Order Shipper Maintenance (7.9.8)

Line Charge Calculation Type. Enter the default charge type to use to calculate the charge amount applied to new line charges added to sales orders or shippers. See “Create Line Charge Type Codes” on page 62.

Summary Only on Invoice: Line Charges. Indicate how additional line charges display on invoices:

No: Line charge details print on the invoice, including the charge description, the charge amount, whether the amount is taxable, and the extended price. Line charge amounts are subtotaled and display in the Line Charges trailer field. This subtotal is included in the invoice total.

Yes: Line charge details do not print on the invoice. Line charge amounts are subtotaled and displayed in the Line Charges trailer field. This subtotal is included in the invoice total.

Include on ASN: Line Charge. Indicate whether to include additional line charge data on the ASN. Each additional line charge displays as a new ASN line.

No: The additional line charge information is not sent.

Yes: A detail line for each additional line charge is sent on the ASN. Currently, the ASN does not include pricing information.

Create Line Charge Control Exceptions

Use Ship-To Control Maintenance (7.22.15) to create control records that override the settings in Container/Line Charges Control for specified ship-from and ship-to combinations.

Field values in this program default from corresponding fields in the control program. The field descriptions in the control program also apply to the fields in this program.

Note The settings in this program only apply to the specific ship-from/ship-to combination specified in the header frame.

Fig. 4.11
Ship-To Control Maintenance (7.22.15)

Using Container and Line Charges

When container or line charge features are activated, additional fields and frames display for user input. In some cases, additional calculations are performed based on data defined earlier.

Working with Scheduled and Discrete Sales Orders

Multiple features can be enabled during order maintenance:

- Specifying container items
- Specifying additional line charges

Specifying Container Items

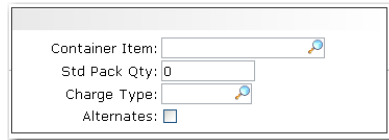
You can specify container and line charge information during order entry in the following programs:

- Sales Order Maintenance (7.1.1),
- Pending Invoice Maintenance (7.13.1)
- Customer Scheduled Order Maintenance (7.3.13).

Figure 4.12 illustrates the Container Item frame in Sales Order and Pending Invoice Maintenance. This frame displays after you enter a line item.

When you specify a container item, the charge type associated with the container item defaults to the Charge Type field. This information is used to calculate the charge amount.

Fig. 4.12
Container Item Frame in Sales Order Maintenance (7.1.1)



Container Item. Enter the number of the primary container item to be used for packaging the order line item.

If container charges are enabled in Container/Line Charges Control (7.22.24), you must enter a valid container item defined in Container Item Maintenance (7.22.10).

Std Pack Qty. Enter the multiple in which orders for this item are usually shipped. Leave the default to use the order multiple associated with the item in Item Master Maintenance (1.4.1).

Order multiples are used to calculate shipment quantities so that they conform to packaging configurations and transportation constraints. MRP uses the order multiple from the item record to determine the quantity of planned orders. The net requirement is rounded up to a multiple of this number. For example, if order multiple is 50 and the net requirement from the customer is 432, MRP creates a planned order for 450.

For scheduled orders, Required Ship Schedule Update (7.5.5) rounds orders based on the standard pack quantity specified on the scheduled order. If you plan to enter the standard pack quantity on scheduled orders, make sure that an order multiple is not defined for the item or the two planning functions update orders differently.

On discrete sales orders, this field is for reference only.

Charge Type. Enter the charge type to use when calculating charges that apply to this container.

This field defaults first from Ship-To/Container Charge Maintenance, if a record has been defined for the ship-to address and container item combination. Otherwise, it defaults from Container Item Maintenance

Alternates. Enter Yes to add, edit, or delete alternate containers for this container item. Otherwise, enter No.

Setting Alternates to Yes in any of these order maintenance programs displays the Alternate Containers frame.

Fig. 4.13
Alternate Containers Frame

Alternate Container	Std Pack Qty	Charge Type
	0	
	0	
	0	
	0	
	0	
	0	
	0	

You can specify up to seven alternate container items to be used if a sufficient quantity of the primary container is not available.

In Customer Scheduled Order Maintenance, a special pop-up is not required since the Container Item field is already available. However, the Charge Type field displays on the screen.

Fig. 4.14
Container Fields in Customer Scheduled Order Maintenance (7.3.13)

Customer Scheduled Order Maint: Go To - ACTIONS -

Ship-From: 10000 Order: SO218
Ship-To: matcust Quality Products Div 1000

Item Number: TT-500 Standard wire clip UM: EA
PO Number:
Customer Ref:
Model Year: Line: 1

Order Line Item Data

Req Sched Days: 0 Dock: Plan SDP Code:
 Req Sched Weeks: 0 Start Effective: Plan SDT Code:
 Req Sched Months: 0 End Effective: Ship SDP Code:
 Fab Auth Days: 0 Max Order Qty: 0.0 Ship SDT Code:
 Raw Auth Days: 0 Std Pack Qty: 1 Netting Logic:
 Customer Item: Cum Start: 04/23/2007
 Container Item: Alternates: ☐ Comments: ☐
 Charge Type:

Fields for container information

Specifying Additional Line Charges

Figure 4.15 illustrates the Additional Line Charges frame as it displays in Sales Order Maintenance. Exactly the same frame displays in Pending Invoice Maintenance and Customer Scheduled Order Maintenance.

If Edit Line Charges on Shipper is Yes in Container/Line Charges Control or in Ship-To Control Maintenance, the Additional Line Charges frame also displays in:

- Container Workbench (7.7.1)
- SO Container Maintenance (7.7.5)

- Pre-Shipper/Shipper Maintenance (7.9.2)
- Sales Order Shipper Maintenance (7.9.8)

Line charges can also be edited directly in Order Line Charge Maintenance (7.22.13). See page 69.

Fig. 4.15
Additional Line Charges Frame

Ln	Additional Charges	Code	Charge	OTC	Charge Type	Reference
1	Special	30	20.00	☐		
2	Service	10	55.00	☐		
				☐		
				☐		

To delete an existing line charge, select the line charge to delete, move to the Code field and press Delete. To modify a line charge, select the line and modify the fields as needed. To enter a new line charge, enter a new line number, then specify values for the other fields.

Ln. Enter the line charge record number. Additional charges print on the shipper in line sequence order.

You can associate up to 999 additional charge lines with each sales order or shipper line.

Additional Charges. This output-only field displays the description of the trailer code after you enter the trailer code and save the line.

Code. Enter a valid trailer code to associate with the additional line charge. The trailer code description displays in the Additional Charges column after you save the line.

You can specify more than one charge for each order line as long as the trailer code is different. You cannot add more than one additional charge referencing the same trailer code for a specific order line.

Charge. Enter the amount of this line charge. If you specify a charge type, the executable program associated with it is used to calculate an extended price based on this amount. Otherwise, the charge amount is used as is.

Depending on the setting of Summary Only on Invoice, line charge descriptions and amounts can display on the invoice.

One Time Charge (OTC). Indicate if this charge is one time only or recurring:

No: This line charge is accessed every time shipment of items on this line is invoiced.

Yes: This line charge is accessed only once for the order line item.

This field does not display when additional line charges are edited on shippers. Additional charges on shippers are always considered one time charges. Recurring charges only occur on sales order shipments.

Charge Type. Optionally enter a charge type to associate with this charge amount. The charge type indicates how the charge amount is applied. The charge type can reference an executable Progress program. See “Create Line Charge Type Codes” on page 62.

Reference. Optionally enter a reference (up to 24 alphanumeric characters) for this line charge. For example, enter the purchase order number for the line item. Reference can appear on selected reports.

Using Container Functions

When container and line charges are enabled, additional features are enabled in Container Workbench (7.7.1) and SO Container Maintenance (7.7.5).

Calculating Container Charges

First, you must specify a valid container item, defined in Container Item Maintenance (7.22.10).

You can also specify a sales order and order line in the Container Information frame. The system then tries to match container information with the sales order line. It retrieves the charge type if the container item specified in the workbench matches the primary or an alternate container item associated with the order line. If no match is found, the system looks for a charge type in Ship-To/Container Charge Maintenance or Container Item Maintenance.

If defined, the ship-to/container price is used. Otherwise, the item master price is used.

Figure 4.16 illustrates Container Workbench. SO Container Maintenance is very similar.

Fig. 4.16
Container Charge Fields in Container Workbench (7.7.1)

The screenshot shows the 'Container Workbench' window. The 'Container Information' section includes fields for 'Next Container' (0000055), 'Container Item' (box1), 'Quantity' (1), 'Unit of Measure' (EA), 'Tare Weight' (0.00), 'Volume' (0.00), 'Site' (10000), 'Location', 'Lot/Serial', 'Reference', 'Multi Entry' (checkbox), 'Sales Order', and 'Order Line'. Annotations with arrows point to the 'Container Item' field, stating 'Specify a valid container item.', and the 'Sales Order' and 'Order Line' fields, stating 'Specify an order and line number.'

Entering Line Charges

The Additional Line Charges frame displays if Edit Line Charges on Shipper is Yes in either Ship-To Control Maintenance or Container/Line Charges Control. You can add, delete, or modify line charges when building the container.

This frame is exactly the same as the one that displays in Sales Order Maintenance, except that the system assumes that the charge is one time only and does not prompt for this value.

See Figure 4.15 on page 67.

Working with Packing Lists and Pre-Shippers

Charge details from a sales order are automatically added to the picklist/preshipper when it is created using Picklist/Pre-Shipper Automatic (7.9.1). You cannot edit the charge details if you generate the picklist/preshipper using this function. To edit the order-line charge details before they are added to a picklist/pre-shipper, use Pre-Shipper/Shipper Workbench (7.9.2) or Sales Order Shipper Maintenance (7.9.8).

These programs function in the same way as Container Workbench (7.7.1) and SO Container Maintenance (7.7.5). You must enter a valid container item. When you specify a sales order and number, the system searches for charge information associated with that line.

See “Using Container Functions” on page 68.

In addition, the Additional Line Charges frame displays if Edit Line Charges on Shipper is Yes in either Ship-To Control Maintenance or Container/Line Charges Control. You can add, delete, or modify line charges when building the shipper.

Confirmed shippers include any associated charges associated during the order process.

Transmitting a shipper using Shipper Gateway (7.9.22) includes the container and line charge for the transmitted shipper.

If you use EDI eCommerce, separate settings in the control program determine whether container and line charge information is sent on an advance ship notice (ASN).

Working With Charges on Invoices

Once the sales order life cycle reaches the invoicing stage, add or modify container and line charges to an invoice in Pending Invoice Maintenance (7.13.1) using the Container Item and Additional Line Charges frames.

When you view the invoice with Pending Invoice Register (7.13.2) or print it with Invoice Print or Reprint (7.13.12), any container or line charge information is automatically included. Posting an invoice with Invoice Post and Print (7.13.4) updates the order information, including container and line charge details.

The amount of detail included on the printed invoice is determined by separate control program settings (Summary Only on Invoice) for container charges and line charges.

Various shipping reports and other functions include container and line charge information. See Table 4.1 on page 50 and Table 4.2 on page 51 for a complete listing of reports and programs modified to include container and line charge data.

Note For Pending Invoice Register and Invoice Post and Print, the user’s login country determines the numeric and date formats.

Maintaining Order Line Charges

Use Order Line Charge Maintenance (7.22.13) to add, modify, or delete additional line charges for a specified sales order or scheduled order.

This program lets you update the same fields that display in Sales Order Maintenance (7.1.1) or Customer Scheduled Order Maintenance (7.3.13) without having to go through the entire maintenance sequence. In addition, it provides direct access to line charge data when security is in place on those programs.

See Figure 4.15 on page 67.

Note This program cannot be used to edit header or line-level order information; you can only edit line charge information.

Fig. 4.17
Order Line Charge Maintenance (7.22.13)

Specify the ship-from site, ship-to address, and order number. Then specify the order item and its associated line number.

The system displays any additional charge lines associated with the current order line. You can modify field values, add new lines, or delete existing lines.

Sample Programs

Using the Container and Line Charges module, you can create and use custom Progress programs to customize charge calculation programs to calculate container and line charges. This is specified in the Run Program field of Charge Type Maintenance.

The following includes a portion of a sample charge type program. Use this sample to determine the input and output parameters that you need to include in your custom programs.

Sample Charge Type Program

```

/* PARAMETERS:
 * ip_price      - unit price to be used in calculations. When pricing
 *                containers this value is from Item Master (pt_mstr)
 *                or Ship-To Container Price List (cclscd_det). When
 *                doing a Line Charge calculation, this value is from
 *                the Sales Order Line Charge (sodlc_det) or Shipment
 *                Detail Line Charge (absl_det).
 *
 * ip_so_recid   - recid of the Sales Order Master (so_mstr).
 *                Valid recid at Sales Order Maintenance and
 *                Sales Order Print. All other times "?".
 * ip_sod_recid  - recid of the Sales Order Detail (sod_det)
 *                Valid recid at Sales Order Maintenance and
 *                Sales Order Print. All other times "?".
 * ip_sodlc_recid - recid of the sales order Line Charge (sodlc_det)
 *                Valid recid at Sales Order Maintenance and
 *                Sales Order Print when calculating line charges.
 *                All other times "?".
 * ip_abs_recid  - recid of the ASN/BOL Shipper Master (abs_mstr)
 *                Valid recid when calculating container charges
 *                during shipper and invoice functions.
 *                All other times "?".
 * ip_absl_recid - recid of the Shipment Det Line Charge (absl_det)
 *                Valid recid when calculating line charges for
 *                shipper. All other times "?".
 * op_price      - extended price of the container or line charge,
 *                returned to the calling program.
 */

/* THIS PROGRAM RETURNS THE UNIT PRICE TO THE CALLING PROGRAM WITHOUT
 * ANY ADDITIONAL CALCULATIONS THUS REPRESENTING A "FLAT" CHARGE
 */

define input-output parameter ip_price like pt_price no-undo.
define input parameter ip_so_recid as recid no-undo.
define input parameter ip_sod_recid as recid no-undo.
define input parameter ip_sodlc_recid as recid no-undo.

```



```
define input parameter ip_abs_recid as recid no-undo.  
define input parameter ip_absl_recid as recid no-undo.  
define output parameter op_price like pt_price no-undo.  
op_price = ip_price.
```


Available to Promise

The available-to-promise (ATP) processing features help you determine whether inventory will be available to meet date commitments on sales orders, return material authorizations, and material orders.

Available To Promise Overview 74

Introduces Available to Promise (ATP) concepts, processes, and functions.

Setting Up ATP Processing 75

Describes how to set up the system to calculate ATP during order processing.

Using ATP Processing Features 79

Describes how the system enforces ATP depending on how the order is entered. The system calculates ATP only on confirmed order lines.

Available To Promise Overview

Available to promise (ATP) is the uncommitted portion of inventory or planned production available to be promised to new orders. The system displays ATP quantities and cumulative totals on master schedule reports and inquiries.

ATP calculations can be used to verify whether an order can be filled within a specific time frame given other demands and currently scheduled supply orders. For example, during order entry, this lets you determine whether inventory will be available to meet a customer's needs before you commit to a promise date.

See *User Guide: QAD Manufacturing* for more information on ATP.

The system calculates ATP for sales orders, as well as for material orders (MOs) and return material authorizations (RMAs), which are part of the Service/Support Management (SSM) module. Depending on the level you select when you define ATP processing for individual items or item-site combinations, the system may either warn you or prevent you from processing a confirmed order when ATP is insufficient.

See *User Guide: QAD Service/Support Management* for more information on MOs and RMAs.

Overview of ATP Processing

You can control ATP processing by specifying control program settings as well as enforcement levels for individual items or item-sites.

When ATP Enforcement is Yes in Sales Order Control (7.1.24), the system ensures during order processing that specific items will be available on the due date. In order maintenance programs, the quantity and due date on the order line are compared with the cumulative ATP before the order is processed. If the order quantity for the item is more than the cumulative ATP, subsequent processing depends on enforcement- level settings for individual items or item-sites.

See “Setting Up ATP Processing” on page 75.

The enforcement level can be:

- None: The system processes order lines for the item regardless of whether adequate ATP exists.
- Warning: The system warns the user when the specified item is not available to promise by the due date, but the user can override the system manually. Due date and required date are not affected.
- Error: The system displays an error and prohibits order processing for the item unless the order quantity or due date is changed to meet ATP requirements.

See “Determining ATP during Order Entry” on page 79.

The system calculates ATP in real time. When an order line is confirmed for a specified due date, cumulative ATP for the item is updated immediately. This way, the system can determine ATP for subsequent orders based on the latest availability data.

The system uses the same item-specific settings in determining how to proceed when you run a confirmation program for order lines on which ATP requirements are not met.

See “Determining ATP during Order Confirmation” on page 80.

You can use ATP Enforcement Check (7.1.19.2) to determine whether an item will be available on a specified date without entering a confirmed order line.

See page 82.

ATP Calculations

When you are using ATP features, the system automatically calculates the availability of items to fulfill orders by specified due dates. The system calculates the ATP for most kinds of items directly. However, for configured items and family items, the system considers component and planning information in its ATP calculation.

See *User Guide: QAD Manufacturing* for information on how ATP is used in the planning process.

Configured Items

For configured items, ATP is based on the component item with the smallest ATP quantity. The system does *not* check cumulative ATP of the configured item itself, since configured items are typically used in an assemble-to-order environment.

However, the system *does* use the ATP enforcement level associated with the parent item in Item Master Maintenance (1.4.1) or Item-Site Planning Maintenance (1.4.17) to determine how to process order lines with inadequate ATP. It disregards the setting of ATP Enforce for individual item components in favor of the enforcement level (Warning, Error, or None) set for the configured item.

See “ATP Settings for Items” on page 77.

Family Items

For family items, the system can check the ATP of all members in the family to determine item availability. You must enter Yes in Family ATP in Item Master Maintenance or Item-Site Planning Maintenance for every family item and member you want the system to verify for availability. The system then accesses the ATP of all items in the same family with dates outside the material requirements planning (MRP) time fence to fulfill the specified line-item order.

Important You should only use this function for items that are interchangeable or that require a minimum amount of modification. Also, if the system uses a portion of an alternate family item to complete a line-item order, the system posts the total amount of the order to MRP for the family item. If the amount consumed was less than the entire amount for the due date, the system may misreport ATP for the alternate family item. See “Family ATP Calculation” on page 76.

Setting Up ATP Processing

Perform the following tasks to have the system calculate ATP during order processing:

- Set up ATP-related fields in Sales Order Control (7.1.24).
- Define ATP processing parameters for individual items and sites.

Setting Control Values

Four fields in Sales Order Control affect ATP processing:

ATP Enforcement Enabled. Enter Yes to activate ATP calculation functions for order line-item processing.

ATP Horizon. Enter the number of days from the current system date that the system should consider when determining ATP.

You can specify an item-specific horizon in Item Master Maintenance (1.4.1) or Item-Site Planning Maintenance (1.4.17). If you do, that value overrides the control program setting.

Family ATP Calculation. Enter 0, 1, 2, 3, or 4 to select the method the system should use to calculate the allowable ATP amount for family items. The method specifies which family items and component items should be considered when determining family item ATP. The default is 1.

0. Include all component item orders and exclude all family item orders.

1. Include all component item orders and include all family item orders. Use this method when you have a high degree of common components and a limited number of unique or difficult-to-manufacture or assemble items

2. Include all component item orders and only family item orders outside the item's time fence. Use this method when you have a high degree of common components but only want family item orders outside the item's time fence. This lets you view longer term item and component availability.

3. Include only all component item orders inside the item's time fence and all family item orders. Use this method when you want all family item orders but only components inside the time fence. This lets you view near-term availability of components but allows you the option of longer term item orders.

4. Include only component item orders inside the item's time fence and only family item orders outside the item's time fence. Use this method when you want the system to ignore component items outside the item's time fence and family item orders inside the time fence. This lets you view near-term availability of components on selected family item orders.

The settings provide a way to determine availability inside a time frame, while aggregating availability outside that same time frame. You can enforce some schedule stability in the near term while entering orders in the longer term where you can more easily adjust the schedule.

Calculate Promise Date. Enter Yes to calculate the promise date automatically for order-line items. See page 25.

When this field is Yes and you have set up delivery times in Delivery Transit Time Maintenance (2.16.1), the system calculates promise dates.

See *User Guide: QAD Master Data* for information on delivery transit times.

Note Entering a promise date manually in the order header frame prevents the system from calculating a promise date for order lines when you enter the lines. However, if you subsequently modify the due date on a line, the system recalculates the promise date when this field is Yes.

When you confirm an order and the system changes the due date based on one of the Change Due Date fields in the confirmation program, you can choose to automatically update the order-line promise date. To do so, Calculate Promise Date must be Yes both in the control program and in the confirmation program.

See “Determining ATP during Order Confirmation” on page 80.

ATP Settings for Items

Two programs let you specify ATP settings for individual items:

- Use Item Master Maintenance (1.4.1) to define ATP information for specified individual items and family items regardless of site.
- Use Item-Site Planning Maintenance (1.4.17) to determine ATP settings for specified individual items and family items by site. Item-site records take precedence over those defined in Item Master Maintenance.

These programs use the same two fields for defining ATP parameters:

ATP Enforce. Enter the ATP enforcement level you want the system to apply to this item. You can specify one of three different levels:

- None: The system does not intervene in the transaction regardless of availability of this item.
- Warning: A warning pop-up window displays if availability is insufficient. You can bypass the ATP warning manually and process the sales order regardless of ATP.
- Error: The system displays an error pop-up window if availability is insufficient. If you do not change the quantity or due date as needed to meet ATP requirements, an error message displays. Unlike with the Warning level, the system will not process the order line unless the quantity is available on the due date.

ATP Family. Enter Yes to have the system check the ATP for other items of the same family before issuing a warning or error. If No, family items are ignored.

See “Family Items” on page 75.

Use the Family ATP Calculation field in Sales Order Control to indicate whether the system adjusts the family item ATP values.

See “Family ATP Calculation” on page 76.

ATP Horizon. Enter the number of days from the current date that you want the system to consider when determining if ATP quantities are sufficient to fill orders for this item.

The field defaults to 0 (zero) in Item Master Maintenance. Unless you update it, the system uses the horizon specified in Sales Order Control.

The Item Master Maintenance value defaults to new records in Item-Site Planning Maintenance. You can change it for individual sites. Set it to 0 to use the Sales Order Control ATP horizon.

Item Record Updates

Two utility programs let you update ATP settings in multiple item and item-site records:

- ATP Enforcement Level Utility

- Item-Site ATP Horizon Update

Use ATP Enforcement Level Utility (7.1.19.1) to set enforcement levels for ranges of items and sites. You can select according to various criteria to manage ATP enforcement levels, eliminating the need to process each item individually.

Note If you are in a multi-domain or database environment, run ATP Enforcement Level Utility once in each domain or database to keep item-site ATP settings synchronized.

Fig. 5.1
ATP Enforcement Level Utility (7.1.19.1)

Specify selection criteria ranges as needed; then use the following fields to determine how ATP records are updated:

Modify Items in Item Master Table. Enter Yes to modify the ATP enforcement level for a range of items in the item master table. Otherwise, enter No.

Changing the ATP enforcement level in the item master table only does not modify the level in the item-site master table.

Modify Items in Item-Site Master Table. Enter Yes to modify the ATP enforcement level for a range of items in the item-site master table. Otherwise, enter No.

When an item and site are entered in a sales order line, the system checks the ATP enforcement level in the item-site master table first. If no records exist there, the system uses data recorded in the item master table, if any.

Site Range for Item-Site Master Table. Enter the range of site codes for which you want to specify an the ATP enforcement level in the item-site master table. Leave blank to begin with the first site record.

Note Specifying a range of sites when Modify Items in Item-Site Master Table is No has no effect.

Use Item-Site ATP Horizon Update (1.4.24) to reset the ATP horizon for ranges of selected items.

Fig. 5.2
Item-Site ATP Horizon Update (1.4.24)

Specify selection criteria ranges as needed; then use the following fields to determine how the ATP horizon is updated:

Site. Enter a valid site code to update only records created for that site in Item-Site Planning Maintenance. Leave the field blank to update only Item Master Maintenance records.

ATP Horizon. Specify the number of days to be used in ATP calculations for selected item or item-site records. Enter 0 to reset existing records to use the Sales Order Control value.

Using ATP Processing Features

Since the system calculates ATP only on confirmed order lines, the way the system enforces ATP depends on how the order is entered:

- Entered as confirmed in an order maintenance program, such as Sales Order Maintenance (7.1.1), or confirmed by changing Confirm to Yes for the line
- Confirmed using a batch confirmation program, such as Sales Order Confirmation (7.1.5)
- Created from a customer's purchase order imported using EDI eCommerce

Determining ATP during Order Entry

The system determines ATP during order-processing functions when you enter confirmed order lines in one of the following programs:

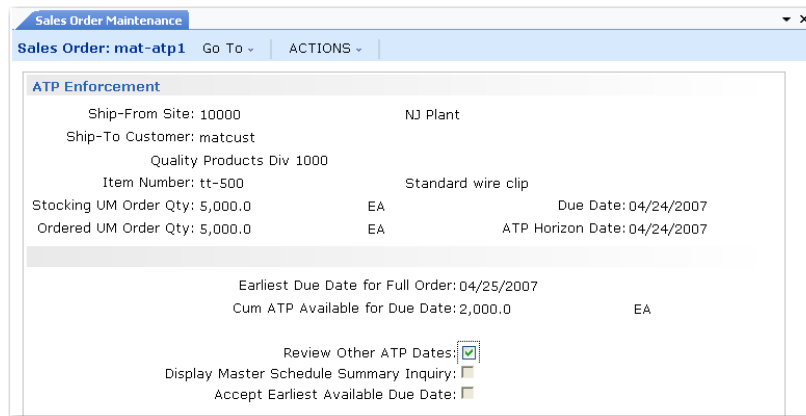
- Sales Order Maintenance (7.1.1)
- Material Order Maintenance (10.7.1 or 11.11.1)
- RMA Maintenance (11.7.1.1)

During order-line entry, an ATP pop-up window displays under the following conditions:

- ATP Enforcement is Yes in Sales Order Control.
- The ATP enforcement level is set to Warning or Error for the item. See "ATP Settings for Items" on page 77.
- The quantity ordered is unavailable for the specified due date for a confirmed non-EMT inventory order.

The pop-up window lets you select alternate due dates and review ATP quantities when the full order quantity cannot be filled by the specified due date.

Fig. 5.3
Order-Line ATP Enforcement Frames



Sales Order Maintenance

Sales Order: mat-atp1 Go To - ACTIONS -

ATP Enforcement

Ship-From Site: 10000 NJ Plant

Ship-To Customer: matcust

Quality Products Div 1000

Item Number: tt-500 Standard wire clip

Stocking UM Order Qty: 5,000.0 EA Due Date: 04/24/2007

Ordered UM Order Qty: 5,000.0 EA ATP Horizon Date: 04/24/2007

Earliest Due Date for Full Order: 04/25/2007

Cum ATP Available for Due Date: 2,000.0 EA

Review Other ATP Dates: ☒

Display Master Schedule Summary Inquiry: ☐

Accept Earliest Available Due Date: ☐

The top frame displays information related to the original order line. The bottom frame displays ATP information and user options:

Earliest Due Date for Full Order. This value indicates the earliest date that planned inventory is available to ship in the quantities ordered.

Cum ATP Available for Due Date. This value indicates the cumulative planned inventory available on the original due date.

Review Other ATP Dates. Enter Yes to display alternative dates to fulfill this order line item. If you enter Yes and click Next, the review frame displays immediately. If you enter No and click Next, the cursor moves to the next field.

Display Master Schedule Summary Inquiry. Enter Yes to open Master Schedule Summary Inquiry (22.18) to display inventory planning, quantity, and ATP data for the ordered item. If you enter Yes and click Next, the inquiry frame displays immediately. If you enter No and click Next, the cursor moves to the next field.

Accept Earliest Available Due Date. Enter Yes to accept the earliest available due date calculated for the item.

Determining ATP during Order Confirmation

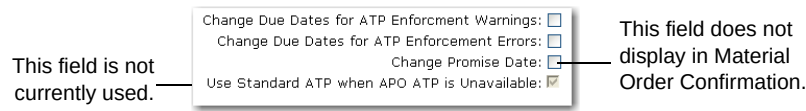
When ATP Enforcement is Yes in Sales Order Control and the ATP Enforcement setting for the item is Warning or Error, the system checks for adequate ATP when you run the following programs:

- Sales Order Confirmation (7.1.5)
- Material Order Confirmation (10.7.2 or 11.11.2)
- RMA Confirmation (11.7.1.6)

Because the confirmation programs confirm all the lines of an order as part of the same batch process, you specify how the system handles lines with inadequate ATP before the confirmation process is run.

Note When you confirm a single line of an order in an order-maintenance program by changing the Confirm field to Yes for the line, the system processes the ATP calculation just as it would if you entered the line as confirmed. If ATP is inadequate to meet the due date, the ATP enforcement pop-up frames display. See Figure 5.3 on page 80.

Fig. 5.4
ATP Fields in Order Confirmation Programs



Use the following fields to control ATP processing during order confirmation:

Change Due Dates for ATP Enforcement Warnings. Enter Yes to change the due dates on order lines if ATP is insufficient for items with ATP Enforce set to Warning. The system adjusts the order-line due date to the best possible later due date and confirms the order.

If No and ATP is insufficient, the order is confirmed, and a warning message displays on the report.

Change Due Dates for ATP Enforcement Errors. Enter Yes to change the due dates on order lines if ATP is insufficient for items with ATP Enforce set to Error. The system adjusts the order-line due date to the best possible later due date and confirms the order.

If No and ATP is insufficient, the order is not confirmed, and an error message displays on the report.

Change Promise Date. Enter Yes to change the promise date for the range of sales orders or RMAs you have selected to confirm based on the new due date. Otherwise, enter No. This applies only if the system assigns a new due date based on the value of one of the Change Due Date fields.

The promise date is the due date plus the delivery time entered in Delivery Transit Time Maintenance (2.16.1).

The initial value defaults from the Calculate Promise Date field in Sales Order Control (7.1.24). You can update it in the order confirmation program only when the control program field is Yes.

No promise date is associated with material orders. This field is not included in Material Order Confirmation.

See *User Guide: QAD Master Data* for information on delivery transit times.

Note The Use Standard ATP when APO ATP is Unavailable field is not currently used.

Determining ATP with Imported Purchase Orders

When you use EDI eCommerce to import your customer's electronic data interchange (EDI) purchase order with Document Import (35.1), the system automatically creates a sales order based on purchase order and master data.

See *User Guide: QAD EDI eCommerce*.

When ATP Enforcement is Yes in Sales Order Control, the sales order creation process uses the following settings to determine how the order line is created:

- When the customer's record in Trading Partner Parameter Maintenance (35.13.10) has Load SO As Confirmed set to No, ATP processing does not take place. The sales order is created as unconfirmed, and the system checks for ATP during confirmation.
- When that field is Yes, the system creates the sales order and confirms lines based on the ATP enforcement level for the item:
 - None: No ATP processing takes place. The order line is confirmed.
 - Warning: The order line is confirmed regardless of whether adequate ATP is found. The system displays a warning message on the output report.
 - Error: The order line is not confirmed. The system displays an error message on the output report.

Determining ATP without a Confirmed Order

Use ATP Enforcement Check (7.1.19.2) to display ATP information, including alternate due dates and ATP quantities, without entering an order. You can select according to customer, item, site, quantity, due date, and promise date.

This inquiry displays the same ATP information as the Master Schedule Summary Inquiry (22.18). However, because this function lets you select according to customer, the system also considers the ATP of reserved inventory for customers associated with reserved locations. This means that the quantity on hand displayed when you run Master Schedule Summary Inquiry may not be the same as the value displayed using this program.

See *User Guide: QAD Master Data* for information on locations.

Fig. 5.5
ATP Enforcement Check (7.1.19.2)

You can use the date fields as follows:

- When you do not enter a due date or promise date, the system calculates the earliest possible due date for the quantity specified for the site and customer.
- When you enter a due date without entering a promise date, the system accesses transit time data and calculates forward to determine a promise date.

Note Calculate Promise Date must be Yes in Sales Order Control (7.1.24) for this feature to work.

- When you enter a promise date without entering a due date, the system accesses transit time data, if any, and calculates backward to determine a due date.

If the calculated due date is earlier than the current system date, the current system date defaults.

Note If you enter a promise date only and transit-time data for the site and customer is not entered in Delivery Transit Time Maintenance (2.16.1), an error occurs.

When quantities of the item are available for the due date, ATP information displays and a message confirms availability. When quantities are not available, you can choose to review other due dates or quantities, review master schedule data, or determine the earliest possible due date.

Shipping

This chapter explains how to ship goods using the container/shipper method and enhanced shipping features.

Shipping Overview 86

Describes how shipping requirements can be handled, from simple sales order shipments and intrasite transfers to more complex international or global shipments.

Setting Up Shipping 86

Illustrates the workflow for setting up all shipping features.

Setting Up Containers 102

Describes how to use containers to package and store finished goods at the end of a production line and to warehouse them in single-level containers before shipping as well as how to use containers to consolidate goods going to the same location.

Setting Up Shipper Validation 113

Describes how to use the programs in the Shipper Validation Menu that verify that pre-shippers/shippers are compliant with customer specifications before sending them.

Shipment Processing 124

Describes how to do domestic and global shipment processing using the container/shipper method using the Shipment Processing programs.

Validating Shippers 155

Describes the shipper validation workflow.

Creating Shippers in Other Functions 167

Describes programs where shipping information and documents can be recorded and managed for issue transactions.

Viewing Shipper Information 176

Details how to use the Shipper Report to review detailed information from shipper documents.

Creating Scanned Shipping Documents 177

Outlines how to use Shipper Gateway to import records scanned by a bar-code reader.

Creating Custom Shippers 180

Describes the steps necessary to create a customized shipper document for outgoing shipments.

Shipping Overview

A broad range of shipping requirements can be handled, from simple sales-order shipments and intrasite transfers to more complex international or global shipments.

This chapter focuses on setting up and using the system's shipping features for domestic and global sales-order shipments using containers, shippers, and master bills of lading. Issue transactions that are not based on sales orders, such as transfers and returns, are also covered. It concludes with information on how to use scanned information to create shipping documents and how to customize shippers.

Simple shipping using packing lists and Sales Order Shipments (7.9.15) is discussed with sales orders. Other aspects of shipping are included in the discussion of customer schedules in *User Guide: QAD Scheduled Order Management*.

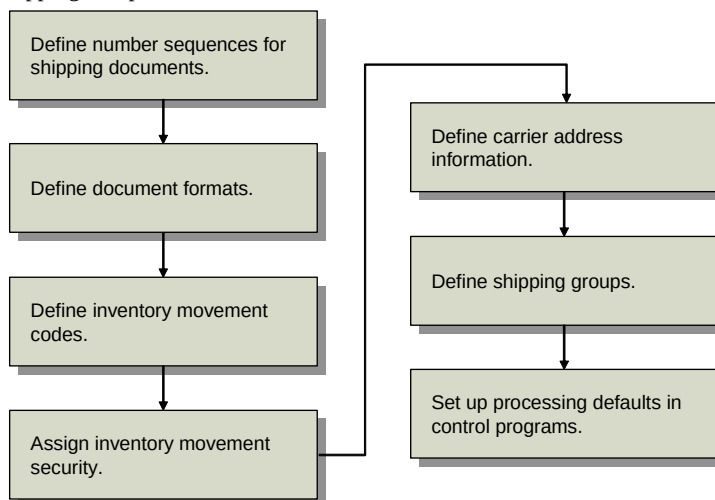
Setting Up Shipping

Shipping has a broad focus that enables you to produce and record sales order shipping documents that comply with diverse regional requirements and common business practices on a global scale. A flexible, user-configured set of related shipping features can be used to facilitate international shipments and control how documents are produced.

The setup steps shown in Figure 6.1 and described in the following topics also apply to DO shipper setup.

The workflow for setting up all shipping features is shown in Figure 6.1.

Fig. 6.1
Shipping Setup Workflow



Each organization must determine how many features they need to implement to meet their own shipping needs. You should consider requirements such as:

- Local and regulatory requirements governing document numbering
- Local and regulatory requirements governing inventory movement
- Company-specific information

- Industry or company-specific business practices

If your shipping needs are very simple, only two setup steps are required:

- Set up numbering sequences for shipper documents (see page 87).
- Set up Container/Shipper Control (see page 97) and Cust Sched/Shipper Acct Control.

For information on DO shippers, see *User Guide: QAD Supply Chain Management*.

Important Number Range Management is required if you use shippers and pre-shippers.

Each of the steps in the workflow is described in detail in the following sections.

Define Number Sequences

To obtain approval for tax filings or statutory reporting, some countries require that businesses adhere to local numbering standards and conventions when assigning numbers to documents, including shipping documents.

Example Document numbering in Italy is related to the print date of the document, and it is a common business practice to have multiple number ranges for shipment and invoice documents. In Brazil, however, document numbering is strictly related to a specific physical site, requiring multiple number ranges with a prefix that identifies a site code.

With Number Range Maintenance (36.2.21.1), you can assign specific number range sequences to pre-shippers, shippers, and master bills of lading so that you can comply with these varied document numbering requirements.

Defining number sequences is a prerequisite to setting up shipping. For instructions on how to define document numbering sequences, see the chapter on Number Range Management in *User Guide: QAD System Administration*.

This section includes information about how NRM sequences affect shippers.

Shipper Number Assignment

NRM assigns or validates unique ID numbers to each sales order shipper, using predefined sequences. This same method is used for Advanced Repetitive subcontract shippers and inventory issue transactions. However, incoming supplier schedule shippers are assigned numbers in another way.

Table 6.1 lists shipper types and indicates how the system assigns a number.

Table 6.1
Shipper Types

Shipper Type	Shipper Number Assignment
Sales Order	NRM generated/validated
Issue Transaction Shipper	NRM generated/validated
Subcontract (Advanced Repetitive)	NRM generated/validated
Supplier Schedule	Manually entered

The system stores all shippers in the same table, using the combination of shipper number and Ship-From site.

Ensuring Unique Shipper IDs

While NRM always dispenses unique numbers to sales order shippers, it does not validate against supplier schedule shipper numbers assigned using other methods. Therefore, NRM may dispense or accept an ID number that already belongs to a different shipper type with the same Ship-From site. In this case, an error occurs.

To ensure all shipper numbers are unique, do one of the following:

- Set up Ship-From sites to be used only for sales order shippers, thus ensuring that a sales order shipper never uses the same Ship-From site as a subcontract or supplier schedule shipper.
- Define NRM sequences with unique fixed prefixes or another fixed segment to be used only for sales order shippers. If you choose this method, ensure that users entering manual shipper numbers are aware of shipper number requirements.

Multi-Database Environments

Each NRM sequence is specific to the database in which it resides and is not aware of sequences in other databases. Thus, in a multi-database environment, sequences in one database may intersect with sequences in another.

Example A sequence in database A generates shipper numbers ranging from 000001—200000. A different sequence in database B generates shipper numbers in the range 100000—399999. As a result, shippers in the overlapping range have identical numbers.

Additionally, a shipper created in a multi-database environment is created and processed completely in the central database with no mirroring in any remote database, even if the material is being shipped from a site in the remote database. Thus, the shipper number is generated from a sequence in the central database and the shipment is recorded in the central database, even though the shipment originates in the remote.

Users with very stringent locale-based numbering requirements should, therefore, ensure that all shipment processing occurs only within the central database and no independent shipments are created in a remote database.

Default Shipping Sequences

Default NRM sequences are set in Container/Shipper Control (7.9.24) for shippers, pre-shippers, and master bills of lading. They can also be defined and associated with each shipping group.

For companies with international shipping requirements, sequence numbers are typically assigned relative to shipping groups. The defaults in the control program are only used for pre-shippers, shippers, and master bills of lading that do not use inventory movement codes or shipping groups.

NRM Datasets for Shipping

NRM sequences are associated with target datasets, which determine where the sequence number is used. The three predefined target datasets for shipping are:

abs_id.shipper. Used by sales order shippers.

abs_id.preship. Used by sales order pre-shippers.

abs_id.mbol. Used by master bills of lading.

Define Document Formats

Some countries, such as Italy, require the use of specific documents and document formats when shipping goods. Use Document Format Maintenance (2.18.13) in the Shipping Group/Document menu to define and create documents to conform with local requirements. Use Document Format Browse (2.18.14) to search for and display information relative to defined document formats.

Document formats for shippers and master bills of lading can be created. The format you assign to your document identifies any special processing and printing requirements.

A document format is assigned a form code to specify form layout and to identify a service-encapsulation procedure. This procedure identifies a set of services that perform additional processing tasks required for printing documents.

See “Creating Custom Shippers” on page 180 for details on creating custom print formats.

Example A procedure can gather additional data to appear on the printed document and check that the document includes all necessary information and is ready to print.

A default document format is set in Container/Shipper Control (7.9.24) and Customer Schedules Control (7.3.24). The default format is used for shippers without inventory movement codes or with no available shipping group, and for master bills of lading. It can also be assigned to inventory movement codes within shipping groups.

You can print shippers or master bills of lading based on a range of document formats. If you have a series of compatible document formats, set up their codes sequentially for efficient printing.

Example You have three document formats that print on the same form. If you name them FMT001, FMT002, and FMT003, you can load the appropriate form in the printer and print only documents with format codes from FMT001 through FMT003. If you have a number of document formats that print on blank paper, set them up in the same way.

Use Master Comment Maintenance (2.1.12) to create master comments associated with a document format by entering the format code in the Master Reference field. You can copy master comments to shipper headers, line items, or trailers when creating or maintaining a shipper using Pre-Shipper/Shipper Workbench (7.9.2). To differentiate between header, line item, and trailer comments, use the Comment Type field.

Note A document format cannot be deleted if it is used by any shipment or shipping group.

Fig. 6.2
Document Format Maintenance (2.18.13)

The screenshot shows the 'Document Format Maintenance' window. At the top, there is a title bar with the window name and a close button. Below the title bar is a menu bar with 'Go To', 'Actions', 'Copy', 'Print', and 'Preview'. The main area contains the following fields:

- Document Type: Shp
- Document Format: DF1
- Description: Document Format 1
- Form Code: 1
- Legal Document Form Code: 11
- Legal Document Max Items: 0

On the right side of the window, the text 'Shipper' and 'Poland Legal Document' are visible.

Specify the document format characteristics you want to create or modify by entering appropriate values in the following fields:

Document Type. Enter the type of document to which the format applies. Possible values are:

- SHP for shippers
- MB for master bills of lading

Document Format. Enter a new or existing document format code of up to eight alphanumeric characters. This field cannot be blank.

Description. Enter up to 30 characters describing this document format. The description displays on browses and reports.

Form Code. Enter a code (up to 2 characters) identifying the requirements for processing and printing documents of this format. This field is required. The default is 1.

Note The Legal Document Form Code and Legal Document Max Items fields are specific to legal document implementation. For information on these two fields, see “Defining Legal Document Formats” on page 321.

Define Inventory Movement Codes

Movement codes are a common business practice in many countries and a legal requirement in others, such as Argentina. Inventory movement codes identify the reason for a transaction, as well as the type of transaction. Inventory movement codes enable you to create shippers for inventory issues not related to a sales order.

Use Inventory Movement Code Maintenance (1.1.9) to create these codes and their descriptions. Use Inventory Movement Code Browse (1.1.10) to search for and display information relative to existing inventory movement codes.

Inventory movement codes are similar to transaction types, but provide a more detailed reason for the transaction. There can be several inventory movement codes for each transaction type. The code can only be specified for the associated transaction. For example, you cannot assign an inventory movement code associated with receipts to a shipment transaction.

Example One inventory movement code of type ISS-SO may be required for sales order shipments to destinations within Italy, while another is required for shipments to destinations outside of Italy.

When you enter an inventory movement code with a transaction type of either RCT-UNP (unplanned receipts) or ISS-UNP (unplanned issues), you can also define the default GL account, sub-account, and cost center to use for processing unplanned issues or unplanned receipts. Defining defaults reduces errors by preventing shop floor workers from having to make decisions regarding the accounting impact of inventory movements.

To edit shippers with assigned inventory movement codes and associated containers, use Container Workbench (7.7.1), Pre-Shipper/Shipper Workbench (7.9.2), or Sales Order Shipper Maintenance (7.9.8). If you attempt to edit such a container or shipper using SO Container Maintenance (7.7.5), the system displays an error message and indicates how you should proceed.

Note An inventory movement code cannot be deleted if it is used by any shipment, site/inventory movement security record, or shipping group.

Fig. 6.3
Inventory Movement Code Maintenance (1.1.9)

Specify the inventory movement code characteristics you want to create or modify by entering appropriate values in the following fields:

Inventory Movement Code. Enter a code of up to eight alphanumeric characters.

Description. Enter up to 30 characters describing this inventory movement code. Description displays on browses and reports.

Transaction Type. Enter a valid transaction type associated with this movement code. Transaction types can be up to eight alphanumeric characters. More than one movement code can reference the same transaction type. See *User Guide: QAD Master Data* for details on transaction types.

Transaction Flow. This field is specific to legal document implementation. Specify the direction of the inventory movement from a business perspective to determine if the transaction requires any legal documents, and if so, what type of legal documents.

For details on this field, see “Defining Legal Document Formats” on page 321.

Specifying Default Accounts

This frame displays only when the transaction type is ISS-UNP or RCT-UNP.

Fig. 6.4
Inventory Movement Code Maintenance, Account Details

For unplanned receipts, enter the relevant GL credit account, sub-account, and cost center combination; for unplanned issues, enter the appropriate GL debit account, sub-account, and cost center combination. These accounts must be of type Standard.

Assign Inventory Movement Code Security

You can restrict which inventory movement codes can be used at a site and who can use them. Use Inventory Movement Code Security (36.3.13.13) to grant or deny access to individuals and roles when using a specific inventory movement code at a particular site. Use Inventory Movement Code Security Browse (36.3.13.14) to search for and display information relative to existing inventory movement code security.

When a shipper is created, the system checks inventory movement code security records to determine which inventory movement codes are available, based on the Ship-From site of the shipper. These records also determine who can confirm or update an existing shipper.

See the chapter on security in *User Guide: QAD Security and Controls* for details.

Note This level of security does not affect whether a line item from a given sales order or other originating transaction can be added to a shipper.

Fig. 6.5
Inventory Movement Code Security (36.3.13.13)

Assign or modify access rights to users/roles by entering the appropriate data in the following fields:

Site. This field is used in conjunction with the Inventory Movement Code field to determine whether a given user (defined in the User/IDs/Roles field) has access to the specified inventory movement code at the site entered. Enter an existing site code.

Inventory Movement Code. Enter a valid inventory movement code to be secured at the defined site. This code is used in combination with the Site field to determine whether a given user or role has access to the inventory movement at the site.

User IDs/Roles. Specify the users or roles who are granted or denied access. Roles are associated with users in Role Permissions Maintain (36.3.6.5).

Define Carrier Addresses

Printing the carrier's name and address on shipping documents is a requirement in some locations. The system provides an address type specifically for carriers, allowing the information to be easily included on shipping documents.

See *User Guide: QAD Master Data* for instructions on how to define carrier addresses.

Use Carrier Maintenance (2.17.1) to define carrier names and specify a business relation containing the addresses, telephone and fax numbers, contact names, and the carrier's tax ID to be included on printed shipping documents.

Because shipments often require the use of more than one carrier, you can assign a series of carriers to each address in a shipping group. Carriers are listed sequentially based on their role in the transportation of inventory.

A carrier cannot be deleted if it is referenced by any shipment, shipping group, or tax history record.

Define Shipping Groups

Shipping groups determine many shipment defaults, as well as consolidation and auto-transfer requirements. When the system processes shipments, it assigns each to a shipping group based on the Ship-From and Ship-To addresses.

Use Shipping Group Maintenance (2.18.1) to create and maintain shipping groups. A source/destination address combination can belong to only one shipping group. When adding addresses to the group, you must indicate whether shipments are to be consolidated with others of the same transaction type. The system refers to both the source and destination address of a shipment to determine consolidation requirements.

To use broad defaults, you can define shipping groups that contain only source addresses, destination addresses, or all addresses by entering blank in the source and destination address fields.

Inventory movement details for a shipping group include default NRM sequences, document formats, and carriers used for shipments with a specific inventory movement code. When several carriers are required for a shipment, you can define a default series, listing them sequentially based on their role in the transportation of inventory.

The system uses the following search order when it looks for a shipping group:

- 1 Searches for a shipping group based on both source and destination addresses of the shipment. If found, the system assigns the shipment to that group.
- 2 If no group meeting the first criteria is found, the system searches for a shipping group that contains the shipment's destination address and has a blank source address. If found, the system assigns the shipment to that group.
- 3 If no group meeting the second criteria is found, the system searches for a shipping group that contains the shipment's source address and has a blank destination address. If found, the system assigns the shipment to that group.
- 4 Finally, if no group with the above criteria is found, the system searches for a group with both blank source and destination addresses, and assigns the shipment to that shipping group.

Once the shipping group for the shipment has been found, the system applies appropriate defaults and shipment attributes.

Fig. 6.6
Shipping Group Maintenance (2.18.1)

Specify shipping group characteristics by entering appropriate values in the following fields:

Shipping Group. Enter a code identifying the shipping group. This field is required.

Description. Enter up to 30 characters describing this shipping group. Description displays on browses and reports.

Auto Transfers. When shipping or receiving an item from a site other than the inventory site, the system generates an automatic inventory transfer. This field determines whether automatic transfer of inventory is allowed between the source and destination addresses in this shipping group. Specify No if movement of inventory between addresses within the shipping group requires a formal shipment. The default is Yes.

Master Bill Sequence ID. This field specifies the NRM sequence code for master bills of lading. Enter an existing NRM sequence code with a target dataset of abs_id.mbol.

Adding Source Addresses

For a new shipping group, the system prompts you for the first source address code. Enter an address code that is not assigned to any other shipping group.

Fig. 6.7
Shipping Group Maintenance, Source Addresses

Source Addresses		
Address	Name	Consolidate Ship
4400	Flat Land Shipping	optional
DT100	Italy Dist Site	optional
MF100	Italy Mfg Site	optional
Address	Name	Consolidate Ship
MF100	Italy Mfg Site	optional

Use the Insert command to add source addresses to an existing shipping group. You are prompted to specify how you want to add addresses:

- 1- Add Single Address.** To add a single address, choose 1. At the prompt, enter an existing address code that is not assigned to any other shipping group.
- 2- Add Addresses by List Type.** To add multiple addresses by list type, choose 2. The system prompts you for an address list type. All addresses of the list type you enter are added to the shipping group. Only addresses that are not already source addresses of the shipping group can be added.
- 3- Add Addresses by Country.** To add multiple addresses by country code, choose 3. The system prompts you for a country code. All addresses of the country you enter are added to the shipping group. Only addresses that are not already source addresses of the shipping group can be added.

A blank source address record can be used to indicate that a shipping group can be used regardless of the actual source address of the shipment.

After you have entered the address codes, modify the Consolidate Ship field, if required.

Consolidate Ship. This field determines whether the source address allows for consolidation of shipments across multiple transactions of a given type such as sales orders or transfers. Values are:

- No indicates that consolidation is prohibited.
- Optional (the default) indicates that consolidation is allowed.
- Yes indicates that consolidation is required.

You cannot establish a shipping group that contains any combination of source and destination addresses where one address requires consolidation and another prohibits it.

Adding Destination Addresses

Adding destination addresses is identical to adding source addresses.

Fig. 6.8
Shipping Group Maintenance, Destination Addresses

Destination Addresses		
Address	Name	Consolidate Ship
5500	Flat Land Receiving	optional
DT100	Italy Dist Site	optional
MF100	Italy Mfg Site	optional
Address	Name	Consolidate Ship
5500	Flat Land Receiving	optional

Specifying Inventory Movement Details

Define the inventory movement details for the shipping group by entering appropriate values in the following fields.

Fig. 6.9
Shipping Group Maintenance, Inventory Movement Details

Inventory Movement Details							
Inv Mov	Tr Type	Default	PS Seq	Ship Seq	Format	Carrier	Multi
ISS-DO	ISS-DO	☒		SHIP	GEN		☐
ISS-PRV	ISS-PRV	☒		SHIP	GEN		☐
ISS-TR	ISS-TR	☒		SHIP	GEN		☐
ISS-UNP	ISS-UNP	☒		SHIP	GEN		☐
ISS-WO	ISS-WO	☒		SHIP	GEN		☐
Inv Mov	Tr Type	Default	PS Seq	Ship Seq	Format	Carrier	Multi
ISS-DO	ISS-DO	☒		SHIP	GEN		☐

Inv Mov. Enter an inventory movement code that can be used for shipments within this shipping group. Inventory movement codes determine the default NRM sequence, carriers, and document format used for the shipment.

Tr Type. This field displays the transaction type associated with the inventory movement code. It cannot be edited.

Default. Enter Yes to mark this inventory movement code as the default for the associated transaction type for the shipping group. Enter No if this inventory movement code is not the default. You can designate only one default inventory movement code per transaction type for a shipping group.

When a shipping transaction is created for a shipping group, the system assigns the default inventory movement code for the appropriate transaction type to the shipper.

This field defaults to Yes if no other inventory movement code of the same transaction type is marked as a default. Otherwise, the default is No.

PS Seq and Ship Seq. Enter the NRM sequence codes the system should use to generate sequence numbers for all pre-shippers or shippers within this shipping group with this inventory movement code.

The system defaults are the value of the Pre-Shipper Sequence ID or Shipper Sequence ID in Container/Shipper Control.

Format. Enter the document format to be used for shipments within this shipping group, for this inventory movement code. Enter an existing document format code of type shipper, or leave the field blank. If a code is not entered, the system uses the value of the Document Format field in Container/Shipper Control.

Carrier. Enter the carrier to be used for shipments within this shipping group, for this inventory movement code. Shipments often require only one carrier, which you enter in this field. If a series of carriers is needed for a shipment, maintain the list by specifying Yes in the Multi field.

If a shipping group has multiple carriers, the Carrier field displays the first carrier and cannot be edited.

Multi. This field indicates whether you want to enter a series of default carriers for this shipping group, for this inventory movement code. Enter Yes if this shipping group requires more than one carrier. The system prompts you for additional carriers. When this field is No, you can enter only one carrier in the Carrier field.

Adding Multiple Carriers to Shipping Groups

When you set the Multi field to Yes in the Inventory Movement Details frame, the Carriers frame displays.

Fig. 6.10
Shipping Group Maintenance, Carriers Frame

Carriers			
	Seq	Carrier	Name
	1	FedEx	Federal Express
	2	TMK	TMK Trucking
Inv Mov	Seq	Carrier	Name
ISS-DO	2	TMK	TMK Trucking

Enter a sequential series of default carriers for the specified shipping group and inventory movement code. The sequence position of the carrier is determined by the value entered in the Seq field, not by the order used to enter the information.

Inv Mov. This field displays the inventory movement code entered previously in the Inventory Movement Details frame and cannot be updated.

Seq. This field indicates the order in which the various carriers handle shipments for this inventory movement code and shipping group. The Ship-From site of a shipment turns over possession to the first carrier, which may later turn over possession to a second carrier, and so on, before the shipment is eventually delivered to the Ship-To destination.

When you remove a carrier, the system does not automatically renumber the remaining carriers. The lowest-numbered carrier is always considered the first carrier.

Enter an integer greater than zero that has not already been used for this shipping group and inventory movement code.

Note Do not confuse this sequence with NRM sequence fields.

Carrier. Enter the carrier to be used in this sequence for shipments within this shipping group and for this inventory movement code.

Name. This field displays the name of the carrier you entered in the Carrier field and cannot be edited.

Displaying Shipping Group Information

Use the following shipping group browses to search for and display information related to shipping groups:

- Shipping Group Browse (2.18.2).
- Shipping Group Address Browse (2.18.3). Other fields associated with a shipping group address detail, including Address Sort Name and Consolidate shippers requirement, can be viewed by scrolling the display to the left or right.
- Shipping Group Inventory Movement Browse (2.18.4). Other fields associated with inventory movement codes within shipping groups, including Pre-Shipper and Shipper Sequences, Document Format, and Carrier, can be viewed by scrolling the display left or right. If more than one carrier is associated with a given shipping group and inventory code, a separate line displays for each.

Use Shipping Group Report (2.18.5) to display the defaults and attributes defined for shipping groups, including inventory movement, pre-shipper/shipper ID, document format, carrier defaults, source and destination addresses, consolidation, and auto-transfer requirements.

Set Up Control Programs

Settings in the following control programs affect shippers:

- Container/Shipper Control (7.9.24) sets various processing options that also apply to customer schedules.
- Cust Sched/Shipper Acct Control (36.9.7) specifies operational accounting parameters that apply to general shipping as well as customer schedules.
- Sales Order Accounting Control (36.9.6) determines whether shipper numbers are included on printed invoices.

Defining Container/Shipper Processing Options

To enable full global shipping functionality, you must update Container/Shipper Control to include default pre-shipper, shipper, and master bill of lading sequence IDs and document formats. Changes to Container/Shipper Control automatically update Customer Schedules Control (7.3.24).

In Cust Sched/Shipper Acct Control (36.9.7), you must also specify whether inventory movement codes and shipment information for receipt processing are required and if maintenance of sales order trailer amounts is allowed.

See “Defining Operational Accounting Settings” on page 101.

Fig. 6.11
Container/Shipper Control (7.9.24)

The screenshot shows the 'Container/Shipper Control' window with the following fields and values:

- Next Container: 100
- Pre-Shipper Sequence ID: PRE
- Shipper Sequence ID: SHIP
- Master Bill Sequence ID: MBOL
- Shipper Document Format: GEN
- Master Bill Document Format: MB
- Max Lines on a Pre-Shipper: 15
- Shipping Label Templates:
 - Mixed Load Label: /shiptemp/defaultmixed
 - Master Load Label: /shiptemp/defaultmaster
 - Single Load Label: /shiptemp/defaultsingle
- Shipment Info For Receipts: ☐
- Use Ship/Plan PCR: ☐
- RSS Calendar Option: 1
- Pre-Shipper Sequence: Pre-Shipper Sequence
- Shipper Sequence: Shipper Sequence
- Master Bill Sequence: Master Bill Sequence
- Generic Shipping Document: Generic Shipping Document
- Master Bill of Lading Format: Master Bill of Lading Format
- Automatic Cum Pegging: ☒
- Customer Ref Is Customer Item: ☐
- Customer/Shop

Next Container. Enter the next sequential container number to be assigned as a default when creating a container using either Container Workbench (7.7.1) or Pre-Shipper/Shipper Workbench (7.9.2).

Pre-Shipper Sequence ID and Shipper Sequence ID. Enter the NRM sequence codes used for pre-shippers and shippers, respectively. The system uses these codes to generate sequence numbers for all pre-shippers or shippers that do not use inventory movement codes or have no available shipping group. Enter an existing NRM sequence code with a target dataset associated with pre-shippers (abs_id.preship) or shippers (abs_id.shipper). The sequence description appears to the right of the code.

Master Bill Sequence ID. Enter the NRM sequence code used for master bills of lading. The system uses this code to generate sequence numbers for all master bills of lading with no available shipping group. Enter an existing NRM sequence code with a target dataset associated with master bills of lading (abs_id.mbol). The description appears to the right of the code.

Shipper Document Format. Enter a valid document format code applicable to pre-shippers/shippers or leave blank to specify no format code. This format is assigned by default to all pre-shippers/shippers that do not use inventory movement codes or have an available shipping group. The description appears to the right of the code.

Master Bill Document Format. Enter a valid document format code applicable to master bills of lading or leave blank to specify no format code. This format is assigned by default to all master bills of lading that do not use inventory movement codes or have an available shipping group. The description appears to the right of the code.

Max Lines on a Pre-Shipper. Enter the maximum number of lines to print on a pre-shipper created by Picklist/Pre-Shipper–Automatic (7.9.1). If zero, this option has no effect.

Mixed Load Label, Master Load Label, Single Load Label. Enter the name of a template file to be used for mixed load, master load, or single load shipping label formats. These are barcode labels that enable shipments to be received with barcode readers. See *User Guide: QAD Scheduled Order Management*.

Maintain Trailer Amounts. Enter Yes if you want to maintain sales order trailer amounts during shipper maintenance and confirmation. If No, you can still specify trailer amounts using Sales Order (7.1.1) and Pending Invoice Maintenance (7.13.1). This field applies only when the shipper document format is used as an invoice.

Shipment Info for Receipts. This field indicates whether the system prompts for shipment information during material receipt entry. Enter Yes if you want to specify shipment number, ship date, and inventory movement code when entering receipts. If No, the system does not prompt you. The default is No.

Use Ship/Plan PCR. Indicate whether prior cumulative required (PCR) quantities are considered by Required Ship Schedule Update (7.5.5) or Selective Required Ship Schedule Update (7.5.6) when resolving the shipping and planning schedules for netting logic. This field only works when you set Netting Logic to 3 in Customer Scheduled Order Maintenance (7.3.13). See *User Guide: QAD Scheduled Order Management* for details.

No: The beginning of the planning schedule is replaced by the shipping schedule and no prior cumulative quantities are considered.

Yes: The beginning of the planning schedule is replaced by the shipping schedule and remaining schedule quantities for the current release are adjusted to include the PCR quantities. The difference between the cumulative planning quantity and the cumulative shipping quantity is calculated as of the end of the overlap week and the difference is placed as an adjustment on the first day of the following week. This results in a required shipping schedule that can extend into the next week beyond the customer shipping schedule.

RSS Calendar Option. Enter one of the following to specify which calendar to use:

- 1 (the default): Use both the customer and shop (manufacturing) calendars to create the RSS.
- 2: Use only the customer calendar to create the Required Ship Schedule (RSS).
- 3: Use neither the customer calendar nor shop calendar. The system creates schedule dates without any calendar adjustments.

This field sets the default for the same-named field in Customer Data Maintenance (2.1.1).

For more information, see *User Guide: QAD Scheduled Order Management*.

Automatic Cum Pegging. This field lets you optionally disable automatic pegging records for cumulative scheduled orders in:

- Picklist/Pre-Shipper–Automatic (7.9.1)
- Pre-Shipper/Shipper Workbench (7.9.2)
- Shipper Gateway (7.9.22)

Yes (the default): Automatic pegging occurs for cumulative orders.

No: Automatic pegging does not occur.

This field has no effect on required scheduled orders. Automatic pegging always occurs for them.

See *User Guide: QAD Scheduled Order Management* for information on pegging.

Customer Ref is Customer Item. Indicate the default value for the Customer Ref is Customer Item field in Customer Scheduled Order Maintenance (7.3.13). That field determines whether the value entered in the Customer Ref field in Customer Scheduled Order Maintenance must be a valid customer item.

See *User Guide: QAD Scheduled Order Management*.

Specifying Yes in Customer Scheduled Order Maintenance has the following effects:

- When you specify a customer item number defined in Customer Item Maintenance (1.16) in the Item field, that customer item number defaults to the Customer Ref and Customer Item field (in the Order Line Item Data frame). The system replaces the value you enter in the Item field with the corresponding internal item number and displays a message to inform you of the change.
- When you enter an item defined in Item Master Maintenance (1.4.1) in the Item field and that internal item corresponds to just one customer item, the corresponding customer item number defaults to Customer Ref and Customer Item.
- When you enter a valid internal item number in the Item field that does not have a corresponding customer item number an error displays. You must change the item or set up a customer item cross-reference in Customer Item Maintenance.
- When you enter a valid internal item number in the Item field that has more than one customer item number, no default displays in the Customer Ref field. You must specify a valid customer item in Customer Ref to continue.
- When you leave the Item field blank and enter a valid customer item in the Customer Ref field, the system enters the corresponding internal item number in the Item field and defaults the value in Customer Ref to the Customer Item field.

Setting this field to No has the following effects:

- When you enter a valid customer item in the Item field, that customer item number defaults to the Customer Item field. The system replaces the value you enter in the Item field with the corresponding internal item number and displays a message to inform you of the change. The customer item number displays next to the Customer Ref field, but the Customer Ref field is not updated.
- When you enter a valid internal item number that corresponds to just one customer item in the Item field, the corresponding customer item displays next to the Customer Ref field and defaults to the Customer Item field; Customer Ref is not updated.
- When you enter an item number that either does not have a corresponding customer item number or has more than one customer item number, then both Customer Item and Customer Ref are left blank. Values entered in Customer Ref are not validated.

Defining Operational Accounting Settings

Use Cust Sched/Shipper Control (36.9.7) to set values for accounting-related aspects of shipment processing.

Fig. 6.12

Cust Sched/Shipper Acct Control (36.9.7)

Cust Sched/Shipper Acct Control	
Auto Invoice Post:	☒
Consolidate Invoices:	☒
Require Inventory Movement Codes:	☐
Maintain Trailer Amounts:	☒
Print Invoice:	☒
Sum History - Items:	☐
Sum History - Containers:	☐

Auto Invoice Post. This field sets the default value for the Auto Inv Post field in Customer Scheduled Order Maintenance and the Post Invoice field in Pre-Shipper/Shipper Confirm. See “Selecting Confirmation Options” on page 145.

Consolidate Invoices. This sets the default value for the corresponding field in Pre-Shipper/Shipper Confirm (7.9.5).

Require Inventory Movement Codes. This field indicates whether inventory movement codes are required for newly created pre-shippers and shippers. If you use movement codes and shipping groups, set this field to Yes to ensure they are always applied. This field should be No if you are not using advanced shipping features or if the setup of inventory movement codes and shipping groups is not complete. The default is No.

Print Invoice. When Post Invoice is Yes, this field determines the default value for the Print Invoice? prompt in Pre-Shipper/Shipper Confirm. Enter Yes to print an invoice when the shipper is confirmed. Otherwise, enter No and print invoices later using Invoice Print or Reprint (7.13.12), or export them in EDI format using Invoice Export (35.4.3). This field has no effect when Post Invoice is No in Pre-Shipper/Shipper Confirm.

Sum History–Items, Sum History–Containers. These settings determine whether Pre-Shipper/Shipper Confirm generates a separate transaction history record for each item or container detail record on a shipper or summarizes transaction history by item or container.

No: A separate transaction history record is generated for each detail record on the shipper.

Yes: A transaction history record is generated for each unique combination of the following shipper detail data: sales order number, line number, item or container number, ship-from site and location, lot or serial number, and reference number.

Setting Sum history–Items and Sum history–Containers to Yes may significantly improve system performance when confirming shippers that reference the same item or container numbers, site and location detail, and sales order information on multiple shipper detail records. The improvement is less significant when you use serial numbers to uniquely identify individual items or containers.

Printing Shipper Numbers on Invoices

The Shipper on Invoice field in Sales Order Accounting Control (36.9.6) lets you specify if you want shipper numbers recorded on invoices.

Fig. 6.13
Sales Order Accounting Control (36.9.6)

Sales Order Accounting Control: Go To ▾ ACTIONS ▾

Calculate Freight by Site: ☒	Comm on Margin not Sales: ☐
Price Table Required: ☒	Disc Table Required: ☐
Price by SO Line Due Date: ☐	Shipper On Invoice: ☒
Minimum Shipment Amount: 1	Use SO Freight List Trailer Code: ☐
Taxable Trailer Code 1: 11	Nontaxable Trailer Code 1: 10
Taxable Trailer Code 2: 21	Nontaxable Trailer Code 2: 20
Taxable Trailer Code 3: 31	Nontaxable Trailer Code 3: 30

Select to print shipper numbers on invoices.

Shipper on Invoice. Indicate whether to print shipper numbers on formal printed invoices.

No: Shipper numbers are for internal purposes only and are not printed on invoices.

Yes: Print shipper numbers on invoices.

When multiple shippers result in a single invoice, all related shippers print on the invoice together with the relevant ship dates.

Setting Up Containers

Use containers to package and store finished goods at the end of a production line and to warehouse them in single-level containers before shipping. Also use containers to consolidate goods going to the same location. A container can be a box of finished goods, a pallet of boxes, or a truckload of pallets.

You can:

- Create containers in two places: Container Workbench (7.7.1) for single-level containers and Pre-Shipper/Shipper Workbench (7.9.2) for hierarchical containers. You can only create new containers in these two programs. Using Pre-Shipper/Shipper Workbench, you can also merge and modify pre-shippers.
- Package single-level containers off the production line.
- Build hierarchies of containers from boxes to truckloads, with intermediate sizes.
- Add, delete, and remove containers and items from shipping documents.

Note If you are using the optional Container and Line Charges module, additional features are available for managing containers. See Chapter 4, “Container and Line Charges,” on page 47.

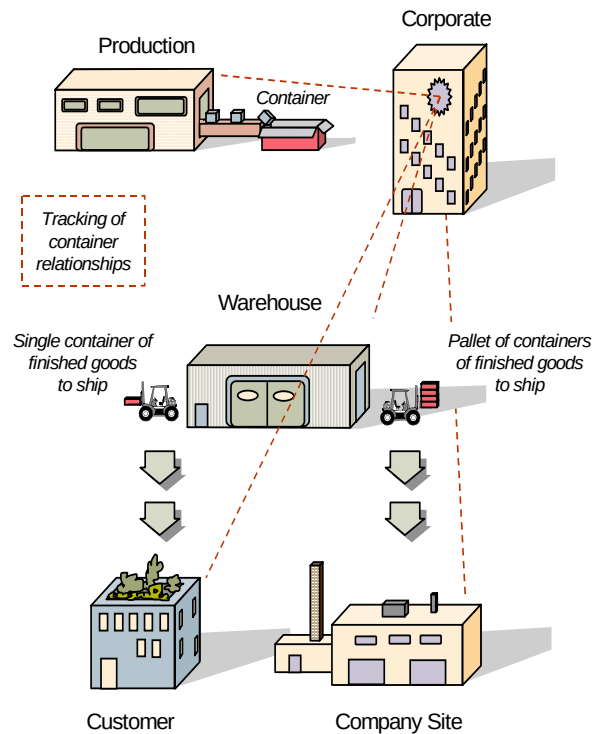
You must set up item numbers representing containers such as boxes, pallets, racks, or truck trailers in Item Master Maintenance (1.4.1). Containers can be managed like any item in the system. You can use no order planning or inventory tracking to full MRP with lot/serial control to track expensive racks, truck trailers, or other specialized containers.

If you want to track container inventory, assign a nonzero GL cost to container item numbers. This ensures that the system creates inventory transactions of type ISS-UNP when you confirm shippers that reference these container items. If you do not want to track container inventory, create dummy item numbers for containers that have zero GL costs. See “Creating Shippers Manually” on page 133.

Container Overview

Figure 6.14 shows an example of how containers can be used effectively. Many businesses with fast-paced, high-volume shipping docks place finished goods into containers and warehouse the containers on-site. The containers and their contents are uniquely identified by a number assigned by the company.

Fig. 6.14
Business Case for Containers



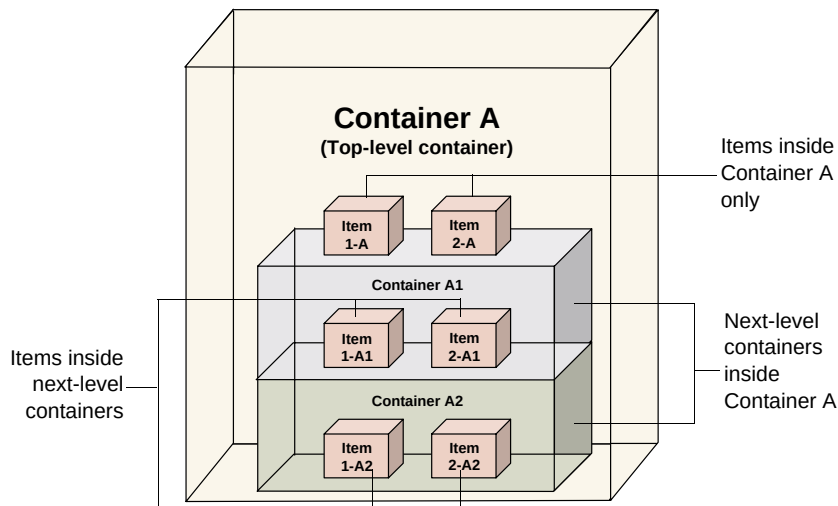
For many automotive suppliers, an additional requirement is the ability to define the containers comprising a shipment. This is typically done at the end of the production sequence by attaching products to the containers. The containers are visible within the picking process and attached to the shipper document to satisfy requirements.

At the end of a production line, you can put finished goods in containers to store them before shipping. Once your finished goods are in containers, you can ship them to customers by container or by a larger unit, such as a pallet of containers or truckload. Container-to-finished-goods relationships can be tracked throughout the shipping process.

Container Relationships

Figure 6.15 shows the relationship between containers and items. A container can include products and other containers. Each container within a set of containers is uniquely identified by a site code and a container number. You can track and monitor containers throughout the supply chain regardless of how they are manipulated, separated, or repackaged.

Fig. 6.15
Relationship Between Containers and Items



Establishing and Modifying Hierarchies

Containers and items have a hierarchical structure. When you create containers in Container Workbench (7.7.1), you can create single-level containers that hold products; when you use Pre-Shipper/Shipper Workbench (7.9.2), you can assign multiple container levels, with each container holding either products or other containers (Figure 6.16).

Fig. 6.16
Container Detail in Container Workbench and Pre-Shipper/ Shipper Workbench

Container Workbench				
Container Workbench: Go To ACTIONS				
Container Workbench				
Level	Container	Item Number	Quantity	UM
0	00000103	box1	1.0	EA
.1	00000102	Box1	1.0	EA
..2	00000101	Box1	1.0	EA
...3		TT-500	50.0	EA

Container: 00000103	Volume: 0.0		
Item Number: box1	Site: 10000	Loc:	
Quantity: 1.0	UM: EA	Lot/Serial:	
Net Weight: 45.4	Reference:	Comments:	
Tare Weight: 0.0	Kanban:		
Gross Weight: 46.4	Description: Box1		
Order:	Order Line:		

You can establish container hierarchies and add containers and items to other containers by either building up or by building down.

Building down containers is a process of adding containers and items to existing container structures. In the Pre-Shipper/Shipper Workbench Detail frame, you can build down into containers, adding items and other containers to larger containers.

Building up containers is a process of creating a superset of containers. You can build up containers in the Container Workbench Add Container field on the Summary frame. For example, you can create or add master containers, such as a pallet container and an overseas shipping container. You have only one opportunity to create master containers for a shipment. You must

start at the lowest level container with its item contents and use the Add Container field to create a hierarchy by building up master containers. The Summary frame appears after the Item Information frame.

Within the first entry session of the first container, every time you set Add Container to Yes, you add master containers up the hierarchy. As soon as you enter No and return to the Detail frame, you can no longer increase the hierarchical structure for this shipment. You can add at various levels within the hierarchy as displayed on the Detail screen.

Planning for Containers

Picklists and customer schedule requirements can form the basis for the input source for container and shipper information. Table 6.2 lists the options on the Containerization Menu.

Table 6.2
Containerization Menu (7.7)

Number	Menu Label	Program
7.7.1	Container Workbench	rcctwb.p
7.7.2	Container Inquiry	rciq03d.p
7.7.3	Container by Item Inquiry	rcctiq.p
7.7.5	SO Container Maintenance	rcctmt.p
7.7.7	Shipping Label Print	rcrp10.p
7.7.23	Container Delete/Archive	rcctdel.p

Container Workbench

Use Container Workbench (7.7.1) to create containers and add items to containers. You can simultaneously create multiple containers that share the same characteristics. When you add several of the same item to more than one container, Container Workbench divides them equally among all containers. Any remainder is added to the first container.

The site code and container number uniquely identify containers and their contents. You can manually assign container numbers or have the system automatically assign them.

You can grant and/or deny access to users when using a specific inventory movement code at a particular site. This is done through Inventory Movement Code Security (36.3.13.13). As a result, you can only edit a container associated with a shipment if a security record does not exist that denies access to the inventory movement code and ship-from site of the shipment.

See “Assign Inventory Movement Code Security” on page 91.

Container Workbench Key Frame

Two fields identify a container.

Fig. 6.17

Container Workbench (7.7.1), Site/Container Selection

Site. Enter the site code from which this container is shipped.

Container. Enter a number identifying this container. Leave blank to create a new container.

Container Information Frame

To create a container in Container Workbench (7.7.1), first define its qualities such as volume, weight, site, location in the Container Information frame (Figure 6.18). You can assign a container number or let the system assign one.

Fig. 6.18

Container Workbench, Container Information

If you leave Next Container blank, the system assigns a default container number.

Next Container. Specify a number identifying the first container in a set of one or more containers. The default is the next available container number defined in Container/Shipper Control.

Container Item. Specify the item number of the container, defined in Item Master Maintenance (1.4.1). For example, the item number assigned to the pallet or shipping carton, packing material, and labels.

Quantity. Enter the number of containers of this item number that the system should create. The system creates as many container records as specified here, assigning sequential container numbers to each one. Each container record created shares the same values that you enter in the container information fields, except for site, location, lot/serial, and reference, which can be assigned different codes by setting Multi Entry to Yes.

UM. The system displays the unit of measure defined in the item master record of this container item number. This field is for reference only and cannot be modified.

Net Weight. The net weight of the container item before packing or loading defaults from the item master record.

UM (Net Weight). The net weight unit of measure defined in the item master record of this container item number.

Volume. The volume of the container item before packing or loading defaults from the item master record.

UM (Volume). The volume unit of measure defined in the item master record of this container item number.

Site. Specify the site code for this container item. You can assign each container to a different site code by setting Multi Entry to Yes. When you specify a site that differs from the header Ship-From site, auto-transfer from the inventory to the shipping site must be allowed. Otherwise, an error displays.

Location. Specify the location code for this container item. You can assign each container to a different location code by setting Multi Entry to Yes.

Lot/Serial. Specify the lot/serial number for this container item. You can assign each container to a different lot/serial number by setting Multi Entry to Yes. If Lot/Serial is Yes in the item master record of this item, you must set Multi Entry to Yes and enter each lot/serial number separately. If you are creating several containers that include a lot or serial number, enter Yes in the Multi Entry field.

Ref. Specify the Reference number for this container item. You can assign each container to a different Reference number by setting the Multi Entry field to Yes.

Multi Entry. Enter Yes to enter different sites, locations, lot/serial numbers, and reference numbers for each container you are creating, or No to assign the same values.

Sales Order and Line. When the Container and Line Charges module is active, specify a sales order and line associated with the items in this container. If you leave these fields blank, sales order number and line are retrieved from the first item in the container. See Chapter 4, “Container and Line Charges,” on page 47.

Issue Detail Frame

If you enter Yes in the Multi Entry field, the Issue Detail frame displays so you can assign different site codes, location codes, lot/serial numbers, and reference numbers for each container you are creating.

Fig. 6.19
Container Workbench, Issue Detail

Site	Location	Lot/Serial	Reference	Quantity
10000				1.0

Enter a site, location, lot/serial number, and reference number. Then specify the number of container items to which you want to assign these values.

Repeat until you have assigned values for the total number of container items entered in the previous frame. Then click Back to close the Issue Detail pop-up.

Item Information Frame

You enter information about the items within the container in the Item Information frame, shown in Figure 6.20.

Fig. 6.20
Container Workbench, Item Information

The screenshot shows the 'Container Workbench' window with the 'Item Information' tab selected. The form contains the following fields and values:

- Item Number: TT-500
- Standard wire clip
- Quantity: 50
- Unit of Measure: EA
- Conversion: 1.0000
- Net Weight: 2 lb
- Volume: 0.00
- Sales Order:
- Site: 10000
- Location:
- Lot/Serial:
- Reference:
- Multi Entry: ☐
- Comments: ☐
- Order Line:

Annotations on the right side of the form:

- Enter the number of the item to add to the container. (points to Item Number)
- Enter the quantity, weight, and inventory location of the item to add. (points to Quantity, Net Weight, and Location)

Item Number. Specify the item number of the commodity, part, or product to be added to the container.

Quantity. Specify the number of items to be added to the container. If you created more than one container record in the Container Information frame, the system evenly distributes the quantity of this item among each container record. If the quantity of items does not divide equally into the quantity of containers, the remainder is added to the first container.

UM. Enter the unit of measure of the inventory transaction quantity. The value defaults from the item master record.

Conversion. Specify the conversion factor the system should use if you specify an alternate unit of measure.

Net Weight. The net weight per unit defined in the item master record of this item number displays by default.

UM (Net Weight). The net weight unit of measure defined in the item master record of this item number displays by default.

Volume. The volume defined in the item master record of this item number displays by default.

UM (Volume). The volume unit of measure defined in the item master record of this item number displays by default.

Site. Specify the site code for this item number.

Location. Specify the location code to be assigned to the containers you are creating.

Location defaults from Item-Site Inventory Data Maintenance (1.4.16) for the container item and ship-from site; if a site-specific record does not exist; location defaults from Item Master Maintenance (1.4.1).

The system creates the number of containers specified in the Quantity field at this site and location. If you want to assign different locations to each container, set Multi Entry to Yes.

Lot/Serial. Specify the lot/serial number for this item number.

Ref. Specify the reference number for this item number.

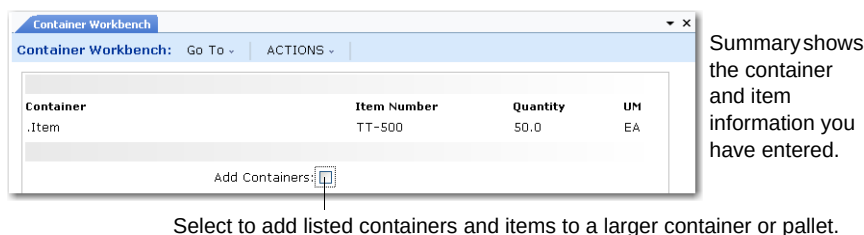
Multi Entry. Enter Yes to enter different sites, locations, lot/serial numbers, and reference numbers for each item you are adding to each container, or No to assign the same values. If you are adding several items that include a lot or serial number to a container, enter Yes in the Multi Entry field.

Comments. This field specifies if comments can be associated with this line item on this container. Specify Yes to enter or edit transaction comments. The system prompts you for your comments. Enter No if you do not want to add or edit transaction comments.

Container Summary Frame

The Summary frame shows you the container and item information you have entered. Figure 6.21 shows the Summary frame.

Fig. 6.21
Container Workbench, Summary



Select to add listed containers and items to a larger container or pallet.

Add Containers. Enter No in Add Containers if the container item and product item relationships are correct. Once you choose No, you cannot add the current zero level container or its contents to a larger container. Enter Yes to add the listed containers and items to a larger container or a master container.

In this case, the Container Information frame (Figure 6.18 on page 106) displays for the input of the parent container information.

Container Detail Frame

In the Container Detail frame, you can modify detail related to a container. You can also add a container to the container, add an item to the container, or delete an item or container from the container.

Fig. 6.22
Container Workbench, Container Detail

Level	Container	Item Number	Quantity	UM
0	00000103	Box1	1.0	EA
..1	00000102	Box1	1.0	EA
..2	00000101	Box1	1.0	EA
...3		TT-500	50.0	EA

Container: TT-500 Volume: 0.0 Site: 10000 Loc: UM: EA Lot/Serial: Reference: Kanban: Description: Standard wire clip Order Line: Comments: ☐

Quantity: 50.0 Net Weight: 100.0 lb Tare Weight: 0.0 lb Gross Weight: 100.0 lb Order:

Container. Specify the container number of this container item number.

Item Number. Specify the item number of this container, commodity, part, or product.

Quantity. Specify the number of items listed in Item Number to be added to the container. If you created more than one container record in the Container Information frame, the system evenly distributes the quantity of this item among each container record. If the quantity of items does not divide equally into the quantity of containers, the remainder is added to the first container.

UM. Specify the unit of measure of the inventory transaction quantity. The value defaults from the item master record of this item number. This field is for reference only.

Net Weight. Specify the net weight per unit defined in the item master record of this container or product item number.

UM (Net Weight). Specify the net weight unit of measure defined in the item master record of this item number. This field is for reference only.

Gross Weight. Specify the gross weight of this item. For container item numbers, it is the sum of the net weight of the container item number plus the net weight of the item numbers added to the container. For product item numbers, it is the net weight of the product item number.

UM (Gross Weight). Specify the net weight unit of measure defined in the item master record of this item number. This field is for reference only.

Volume. Specify the volume defined in the item master record of this item number.

UM (Volume). Specify the volume unit of measure defined in the item master record of this item number.

Site. Specify the site code for this item number. You can assign each container to a different site code by setting Multi Entry to Yes.

Lot/Serial. Specify the lot/serial number for this item number. You can assign each container to a different lot/serial number by setting Multi Entry to Yes.

Ref. Specify the reference number for this item number. You can assign each container to a different Reference number by setting Multi Entry to Yes.

Kanban. Specify the kanban number of this container record. This field is for reference only.

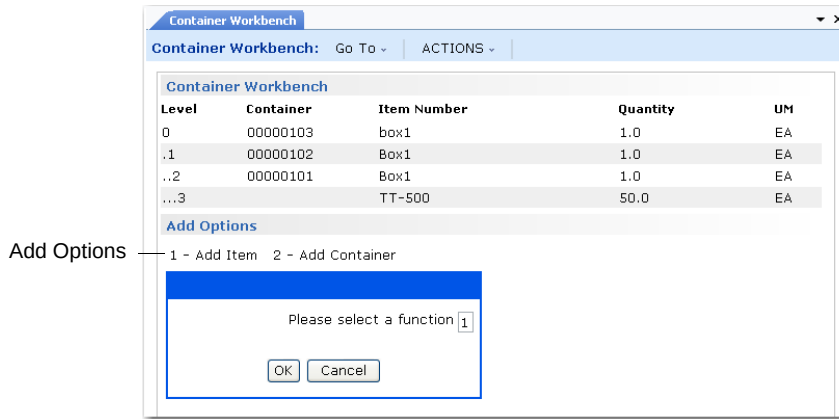
Description. Specify the description defined in the item master record of this container or product item number.

Comments. This field indicates whether comments can be associated with this line item on this container. Enter Yes to enter or edit transaction comments. The system prompts you for your comments. Enter No if you do not want to add or edit transaction comments.

To add a container:

- 1 Use the Add command appropriate for your user interface. The Add Options pop-up appears.

Fig. 6.23
Container Workbench, Add Options



- 2 Choose Option 2 to add a container.
The Container Information frame appears. See Figure 6.18 on page 106.
- 3 Enter a container item number and the values for the container item.
The Container Detail frame appears with the new container added. See Figure 6.22 on page 110.

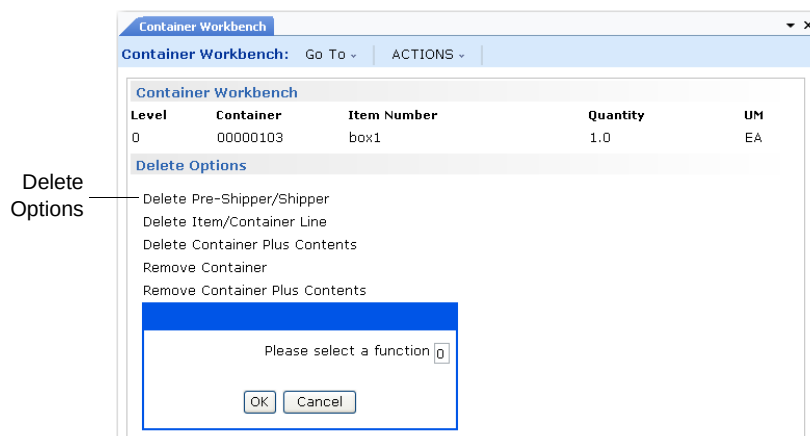
To add an item to an existing container:

- 1 Select an existing container.
- 2 Use the Add command appropriate for your user interface.
The Add Options pop-up appears. See Figure 6.23 on page 111.
- 3 Choose Option 1 to add an item.
The Item Information frame appears. See Figure 6.20 on page 108.
- 4 Enter an item number and the values for the item in the Item Information frame.
The Container Detail frame appears with the new item added to the selected container.

To delete a container or item:

- 1 Select a container and use the Delete command appropriate for your user interface.
- 2 The Delete Options pop-up displays.

Fig. 6.24
Container Workbench, Delete Options Pop-Up



3 Choose one of the following options:

Choose	To
1–Delete Pre-Shipper/Shipper	Delete the entire container from the database.
2–Delete Item/Container Line	Delete a container or item line from the database. Any container or item belonging to the deleted container or item line is moved up one level. You cannot delete a container line if it results in an item that does not have a container line.
3–Delete Container plus Contents	Delete a container and all containers or items belonging to it.
4–Remove Container	Remove a next-level container from a container. The container can still be accessed under its own container number.
5–Remove Container plus Contents	Remove a next-level container and all containers or items belonging to it from a container. The container can still be accessed under its own container number.

4 You are prompted to confirm the deletion. Enter Yes to continue deleting, or No to cancel.

SO Container Maintenance

SO Container Maintenance (7.7.5) supports the following shipping features.

- Shipping documents with assigned document formats. If the format specifies that the document can be used as an invoice, you cannot add a container that violates the restrictions for consolidating sales orders on invoices. For example, line items in the containers cannot reference sales orders with different bill-to addresses.
- Shipping documents with assigned NRM sequence IDs.
- Ship-from sites with an assigned address code.

However, you cannot use SO Container Maintenance to edit a container associated with a shipper that uses an inventory movement code. To edit these containers, use Container Workbench (7.7.1).

Deleting Unused Containers

Use Container Delete/Archive (7.7.23) to delete and archive unused container records when they are no longer needed. An unused container is one that is no longer linked to another container or shipper. When you have many unused containers, you may run out of container IDs.

You cannot use this program to delete a container that is currently linked, either to another container or to a shipper record. To delete specific linked containers, use one of the following programs, depending on the type of container:

- Container Workbench (7.7.1) for type S (shipper) containers
- SO Container Maintenance (7.7.5) for type S (shipper) containers
- Sub Container Maintenance (18.22.5.4), for type U (subcontract) containers
- PO Container Maintenance (5.13.13), for type R (purchase order) containers

You can select unused container records by site, by container number, and by container type. You can also choose to remove any container structure associated with an unused container.

Setting Up Shipper Validation

Use the following programs in the Shipper Validation Menu (7.9.11) to verify that pre-shippers/shippers are compliant with customer specifications before sending them:

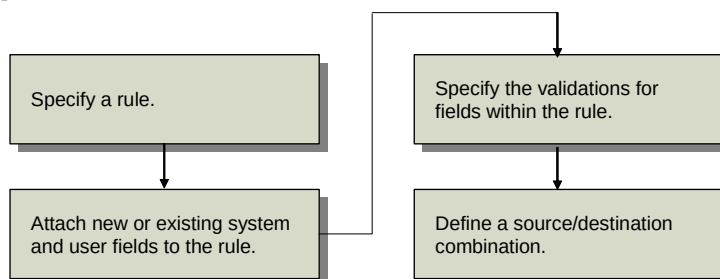
- Rule Definition Maintenance (7.9.11.1)
- Source/Destination Rule Link (7.9.11.5)

When compliance problems occur, the system displays errors during shipper processing. Also, the system does not confirm shippers with errors. By notifying you of incomplete or erroneous data in shipper programs, you can correct problems before the shipper is processed. This means the shipper is correct before you send a hardcopy, or if you use ASNs and EDI, before you send the shipper through EDI. You can also add and validate shipper fields that are required for purposes other than EDI eCommerce.

To process with validations, see page 155.

This section describes tasks you complete before you can begin validating shipper fields during shipper processing. Figure 6.25 depicts the tasks.

Fig. 6.25
Setup Flow



You complete all setup tasks, except defining a source/destination combination, in Rule Definition Maintenance (7.9.11.1). You define a source/destination combination in Source/Destination Rule Link (7.9.11.5).

Rule Definition Maintenance

Several frames display in Rule Definition Maintenance to help you complete the validation setup. The following topics describe the frames.

Rule Fields Frame

After you enter a rule ID and other data in the header, the system displays the Rule Fields frame, which contains a list of fields and start effective dates that are attached to the rule. You can locate any field in the Rule Fields Frame and select it for update.

Field Detail Frame

If you select a field in the Rule Field frame to edit, or if you add a new field, the system displays the Field Detail frame. This frame displays fields that let you:

- Specify the name of the field.
- Optionally, enter a description.
- Enter the start date and, optionally, the end effective date.
- Specify whether the field applies to the shipper header, item, or container.
- Specify whether the field is a user or system field.
- Delete the field from the rule.

See Figure 6.27 on page 117.

Prompt/Validation Locations

After you enter field detail data and click Next, the system displays the Prompt/Validation Locations Frame. In the frame, you specify whether the system provides validations, and if so, whether the validation is optional or required. You also specify whether the system prompts to enter values for user fields.

Note You cannot control prompts for system fields.

Validation Detail Frame

You specify validations for a field in the Validation Detail frame. You specify validations for either system or user fields in this frame. Depending upon settings of certain fields and whether you are defining validations for a system or user field, additional frames can display.

Allowed Field Values and Manage Allowed Values Frames

If you set Allowed Field Values to Yes for a field in the Validation Detail Frame, the system displays the Allowed Field Values and Manage Allowed Values Frames. Use the frames to record field values.

See Figure 6.30 on page 121

If you specified a generalized code field in the Validation Detail frame, you can select from a list. If not, you must create values for the field.

When you exit the frame, the system returns you to the Validation Detail Frame.

Header Data

You must enter a Rule ID and other data about the rule in Rule Definition Maintenance before you can add new or existing shipper fields or create field validations.

Fig. 6.26
Rule Definition Maintenance (7.9.11.1), Header

The screenshot shows a web-based form titled "Rule Definition Maintenance". At the top, there is a navigation bar with "Rule Definition Maintenance:" followed by "Go To ~" and "Actions ~". Below this, the form contains several input fields and checkboxes arranged in a grid-like fashion:

- Rule ID:** A text input field with a magnifying glass icon for search.
- Description:** A text input field.
- Category:** A text input field.
- Last Modified:** A text input field.
- By:** A text input field.
- Last Imported:** A text input field.
- By:** A text input field.
- File Name:** A text input field.
- Allow Import:** A checkbox.

ID. Specify an identifier for this rule. You cannot leave this field blank; otherwise, an error displays.

Description. Optionally enter a description of the rule.

After you enter a description and press Go, the system displays the Rule Fields Frame with a list of fields attached to the rule and the Field Detail frame with the currently selected field.

See Figure 6.27 on page 117.

Category. Optionally specify a category for this rule. Use categories to further organize and group rules.

Last Modified/By. These display-only fields show the date the rule was last modified and the user who modified it.

Last Imported/By. These display-only fields show the date the rule was last imported by centrally managed rule functionality and by whom. For information on centralized management of rules. See “Centralized Management of Validation Data” on page 159.

Allow Import. Indicate whether system administrators can import rules that were exported from a centrally managed site. For information on centralized management of rules.

Adding Fields for Shippers

Use Rule Definition Maintenance (7.9.11.1) to add fields to shippers, attach the fields to a rule, and create validations for the fields.

You can create fields that validate shipper content and structure before you send shipper data to the customer. For example, your shippers may require that users enter the shipment weight or—shipping internationally—that users enter a specific carrier or other export-processing data.

Example In the automotive industry, some OEM customers require their suppliers to include Authorized Excess Transportation Codes (AETC) for shipper lines when the shipping costs are over a previously agreed amount. You can define a field for users to enter the AETC; then, define whether the additional AETC code should be entered while creating or updating a pre-shipper/shipper.

If you use EDI to send ASNs, you can also create fields that validate shipper content and structure before you send an ASN through EDI eCommerce and include this information on printed shipper documents. This lets you correct potential errors in the Shipment Processing Menu (7.9) and ensure that the pre-shipper/shipper is compliant with the customer EDI specifications before sending the ASN.

There is no limit to the number of fields you can attach to a rule. The system stores validations and allowed field values for each rule in separate tables.

Table 6.5 on page 156 shows you the various pre-shipper and shipper creation and confirmation programs that interact with shipper validation enhancements.

Planning New Shipper User Fields

Use the following guidelines to help you determine when and where to set up new user fields for shipper processing.

- During shipper maintenance, determine the best time to enter the required shipping data. When system users process shippers, do they require codes be associated with specific shipper fields?

Example Most of your customers require that you associate an airbill number with each shipper, so you set up a unique airbill field that displays in the shipper header.

- Determine if there are default shipper code values that should not be modified.
- Determine whether users should be allowed to modify the field on the shipper.
- Although the same-named label can co-exist within the system for both a user and system field, you should create user fields with unique labels. This avoids confusion for the person processing the shipper.
- You cannot create the same user field for both a header and a line/container item.

Adding a Field to a Rule

You add an existing field to a rule or create a new user field in Rule Definition Maintenance. If you create a new user field, that field displays in the field look-up browse and other users can attach the field to rules.

To add a new or existing field to a rule, use the following procedure:

- 1 Enter the Rule ID and other data in the header in Rule Definition Maintenance (7.9.11.1); then click Next.

The system displays the Rule Fields and Field Detail frames.

- 2 Choose one of the following:
 - Select a field from the Rule Fields frame to edit.
 - Choose Insert to add a new field to the rule.

The system displays the Field Detail frame. If you are inserting a new field, all fields are blank in the frame.

- 3 Enter/edit the field name in the Field field.
Use the look-up browse to select from a list of fields.

- 4 If the field is new, the system prompts you to create the new field; specify Yes to create the new field.
- 5 Enter data in the remaining fields in the Field Detail Frame.

Fig. 6.27
Rule Definition Maintenance, Field Detail

Choose Insert; then enter data here for new field.

Field. Enter a valid field name for the field.

Use the look-up browse to select from a list of all possible fields that can be entered for a rule. The list is maintained in Generalized Codes Maintenance (36.2.13) and includes both system fields from Pre-Shipper/Shipper Workbench (7.9.2) and Pre-Shipper/Shipper Confirm (7.9.5).

Description. Optionally create or edit the defaulted field description.

Apply To. Indicate if this user field applies to the shipper (header), line item, or container item.

Note You cannot create the same user field for both a header and a line/container item.

Start Effective. Enter the start effective date for this field to be validated as part of this rule. You cannot leave this field blank. You can attach the same field to more than one rule so long as you specify different start dates; however, the system checks for date range overlapping.

When dates overlap, the system prompts you to expire the previous instance of the field. For example, you add an AETC code field with a date from September 1, 2006, to January 1, 2007, to the rule. You then add the same field with dates from December 1, 2006, to December 30, 2006. The system will prompt you to expire the field with dates from September 1, 2006, to January 1, 2007.

End Eff. Enter the end effective date for this field to be validated as part of this rule. You can leave this field blank. The system checks for date range overlapping.

Type. This field is display only and depicts whether the field is a user or system field.

Determining Validation/Prompt Locations

Once you add the field details, use the Prompt/Validate Locations frame to specify the location at which the system:

- Validates the field
- Prompts for user entry

Fig. 6.28
Prompt/Validate Locations Frame

Location	Validation Level	Prompt
Pre-Shipper	None	☐
Shipper	Required	☐
Confirm	Required	☐

Validation Level. Indicate the validation level for a pre-shipper, shipper, or shipper confirmation:

None: The field is not validated.

Required: The field is required. If users do not enter data or enter incorrect data, the system displays the message specified in the Validate Message field as an error. Additional messages may display, too.

Optional: The field is optional. If users do not enter data or enter incorrect data, the system displays the message specified in the Validate Message field as a warning. Additional messages may display, too.

Prompt. Indicate whether you want the system to prompt for field values in the pre-shipper, shipper, or shipper confirmation. This field is display only if you are creating validations for a system field.

No (the default): The system does not prompt for values.

Yes: The system prompts for values.

Note This field is display only if you are adding a system field.

Defining Validations for a Field

You specify the type of validation you want to execute against the field in the Validation Detail frame. The system applies the validation to the field when you create/update a pre-shipper or shipper or confirm the shipper.

Fig. 6.29
Validation Detail Frame

Rule Definition Maintenance

Rule Definition Maintenance: Go To Actions

Field: abs_fob
Type: System
Apply-To:

Validation Detail

Validation Point: Field
Allow Blank: ☐
Minimum Length: 0
Maximum Length: 0
Enforce Case: ☐
Generalized Code Field:
Validation Program:
Internal Procedure:
Default Value:
Validate Message:

Invalid Characters:
Undefined Values: ☐
Comments: ☐
Allowed Field Values: ☒

Validation Point. Specify where the system performs the validation during pre-shipper or shipper creation or confirmation for user and system fields.

Field (the default): The system validates at time of field entry for both user and system fields.

End: For user fields, the system validates at the end of shipper creation in shipper maintenance programs or just prior to the start of confirmation in a confirmation program.

Allow Blank. Indicate whether the field can be blank.

No (the default): The field cannot be blank. A value must be entered in the field.

Yes: The field can be blank.

Minimum Length. Specify the minimum length of the field value in terms of the number of characters. The minimum length cannot be greater than the maximum length. You can enter a zero (0); however, the system does not validate the length at process time.

Maximum Length. Specify the maximum length of the field value in terms of the number of characters. The maximum length cannot be less than the minimum length. You can enter a zero (0); however, the system does not validate the length at process time.

Enforce Case. Indicate whether the system enforces the upper- or lower-case values of defaults and user or system field values.

Note To execute case validations, the system requires a list of possible values to compare to user input for the field. You must have Generalized Codes Field values or Allowed Field Values specified for the field. If neither exist, the system cannot execute this validation even when set to Yes.

No (the default): The system does not enforce the upper- or lower-case values and users can specify field values using any combination of upper or lower case.

Yes: The system enforces upper and lower-case values of defaults and user or system field values. Users must enter values using the predefined upper or lower case for the value.

Generalized Code Field. Specify a new or existing generalized code defined in Generalized Codes Maintenance (36.2.13).

If the generalized code is new, the system prompts to create the generalized code. If the generalized code exists, the system prompts to add values for the generalized code. If you specify Yes to either prompt, the system displays the Generalized Codes Maintenance (36.2.13) frame. You can add or update values and comments for the generalized code you entered in Generalized Code Field.

When you enter a generalized code here, it determines which values you can update in the Default Value field. If you enter a value in Default Value that is not in the generalized code list of values, the system displays an error.

You can enter both a generalized code field and a validation program in the Validation Program field.

Validation Program. Enter the name of the custom program to validate user input for the field you are adding to the rule. The program name must include the .p—for example, `Validate.p`—and must reside in the database propath.

You can use the following five execution programs that are provided instead of creating custom programs:

`rcvrfc01.p`: Sample container quantity verification program

`rcvrfi01.p`: Sample item containerization verification program

`rcvrfc02.p`: Sample container empty verification program

`rcvrfc03.p`: Sample containerization level verification program

`rcvrfi02.p`: Sample container has same order/line verification program

Internal Procedure. Enter the name of an internal procedure that is a part of the validation program you specified in Validation Program. You cannot enter an internal procedure unless you specify the validation program first.

Default Value. Optionally enter a default value for the field. If you specified a field in Generalized Code Field, use the look-up browse to select from a list of possible values that are recorded in Generalized Codes Maintenance for that field.

When adding a new system field to a rule, this field is always blank.

Validate Message. Enter a text message that displays when a validation error or warning occurs. The message cannot be longer than 121 characters.

Invalid Characters. Specify one or more characters that users cannot enter in the field. Enter the characters as a single string without commas or other separators. For example, enter `$ # %` to have the system display an error if the user enters any of these characters. The system does not validate the string as a whole.

Undefined Values. Indicate whether users can enter an undefined value for the field.

No (the default): Users cannot enter any value for the field that is not predefined as a value.

Yes: Users can enter both values or undefined values in the field. When they enter an undefined value, the system displays a warning.

Comments. Optionally add any comments about the validation program.

No: Do not add comments about the validation program.

Yes: The system displays the standard system Transaction Comments frame with Master Reference and Type fields. In the Master Reference field, the system defaults the rule number, followed by a dash (-) separator, then the field name. For example, the abs_fob field for rule 1 displays as follows:

1 - abs_fob

Allowed Field Values. Indicate whether the system records each allowable value for the field. The default is Yes if field values exist for the field you selected; otherwise, the default is No.

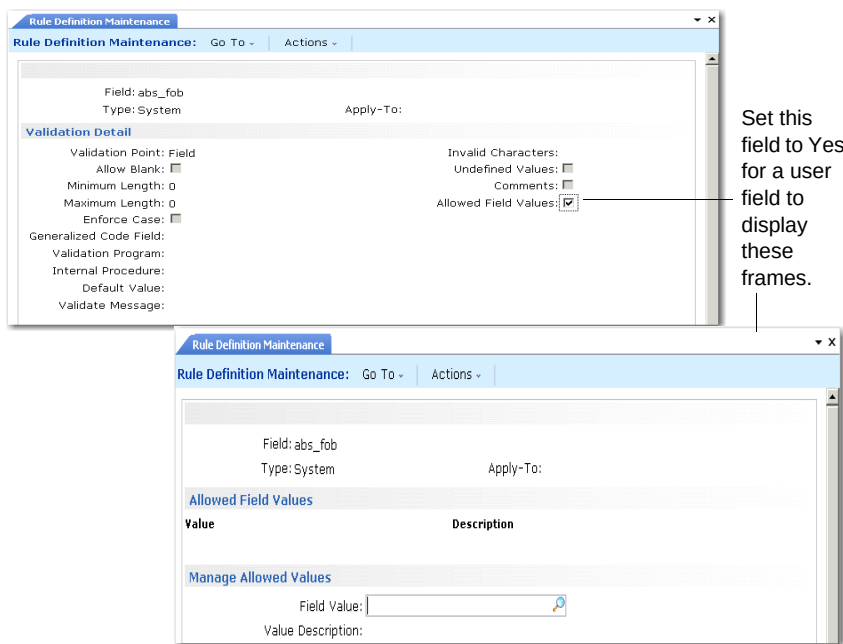
No: The system does not record allowable values for the field.

Yes: The system records the values and displays the Allowed Field Values and Manage Allowed Values frames to record each allowable field value. See Figure 6.30 on page 121.

Specifying Field Values

The Allowed Field Values and Manage Allowed Values Frames display when you set Allowed Field Values to Yes. You select from a list of existing values in the Allowed Field Values frame or add a new value. Your selection displays in the Field Value field in the Manage Allowed Values frame. Optionally edit the description, add a new value and description, or use the correct delete function for your user interface to delete the value. See Figure 6.30.

Fig. 6.30
Allowed Field Values and Manage Allowed Values Frames



Field Value. Specify a value to add or delete for a field.

Value Description. Optionally, enter a description for the value.

Linking Rules to Profiles

Use Source/Destination Rule Link (7.9.11.5) to set up source and destination address combinations and link existing rules to the combinations. You must link a rule to the profile; otherwise, you cannot create the profile.

Creating a Source or Destination Profile

To validate data, you must provide the source and destination criteria upon which the system bases the validation. The source criteria are from the following source fields in Source/Destination Rule Link:

- Source country
- Ship-from

The destination criteria are from the following destination fields in Source/Destination Rule Link:

- Destination country
- Customer
- Ship-to
- Dock

Linking Rules to Field Values

Use Source/Destination Rule Link (7.9.11.5) to link source/destination profiles to specific rules. Specify source/destination values for the fields; then indicate the rule you want to link to the source and destination field values.

Example You create three rules to validate user and system fields for shippers sent from ship-from code 100 in the USA to Mexico.

- Rule 1: USA shipping validations
- Rule 2: Ship-from code 100 shipping validations
- Rule 3: Mexico shipping validations

You want the system to apply the rules as follows:

- Rule 1 applies when you ship from anywhere in the USA to anywhere in the world.
- Rule 1 and 2 apply when you ship from USA/ship-from code 100 to anywhere in the world.
- Rule 1, 2, and 3 apply when you ship from USA/ship-from code 100 to Mexico.

To do this, define three source/destination combinations:

Field to Set	Set 1	Set 2	Set 3
Source Country	USA	USA	USA
Ship From	blank	100	100
Destination Country	blank	blank	Mexico

You then link the rules to the hierarchy set as follows:

- Link Set 1 to Rule 1

- Link Set 2 to Rule 2
- Link Set 3 to Rule 3

Now, any time a shipper is sent from:

- USA to anywhere, Rule 1 executes against the shipper.
- USA, Ship-From 100, Rules 1 and 2 execute against the shipper.
- USA/Ship-From 100 to Mexico, Rules 1, 2 and 3 execute against the shipper.

Source/Destination Rule Link

The following describes fields in Source/Destination Rule Link.

Fig. 6.31
Source/Destination Rule Link (7.9.11.5)

Source Country. Enter the country code for the source profile to link to a rule.

Ship-from. Enter the ship-from code for the source profile to link to a rule. You define ship-from codes in Site Maintenance (1.1.13.1).

Destination Country. Enter the country code for the destination profile to link to a rule. The system populates this field when you enter a ship-to code or dock as part of the profile.

Customer. Enter the customer code for the destination profile to link to a rule. The system populates this field when you enter a ship-to code or dock as part of the profile. You define customer codes in Customer Create (27.20.1.1).

Ship-to. Enter the customer ship-to code for the destination profile to link to a rule. The system populates this field when you enter a dock as part of the profile. Also, if you enter a ship-to, the system populates the Customer and Destination Country fields. You define customer ship-to codes in Customer Ship-to Create (27.20.2.1).

Dock. Enter the dock code for the destination profile to link to a rule. The system populates the Ship-To, Customer, and Destination fields when you enter a dock as part of the profile. You define dock codes in Dock Maintenance (7.3.6).

Last Modified Date/By. These display-only fields show the date the rule was last modified and the user who modified it.

Last Import/By. These display-only fields show the date the rule was last imported from exported centrally managed rules and by whom. For information on centralized management of rules. See “Centralized Management of Validation Data” on page 159.

Allow Import. Indicate whether system administrators can import rules that were exported from a centrally managed site. For information on centralized management of rules.

Shipment Processing

This section covers shipment processing—both domestic and global—using the container/shipper method. These functions can be found on the Shipment Processing menu (7.9).

Note The containers used in shipment can be built in shipment processing programs or with programs on the Containerization menu (7.7). See “Setting Up Containers” on page 102.

This section begins with an overview; following the overview are detailed instructions on how to create, print, and confirm shippers using the pre-shipper/shipper programs.

Overview

A pre-shipper is a document used to select containers and product inventory for shipment. When you select products and containers on pre-shippers, the inventory for those items can be detail allocated, if it has not been already. Pre-shippers are similar to sales order picklists and can be printed in Pre-Shipper/Shipper Print (7.9.4).

For information on the Bills of Lading Menu (7.9.12), see page 151.

A shipper is a document accompanying the shipment as a record of what is included. You can send a shipper electronically as an advance ship notice (ASN) when the shipment leaves your dock or send it with the shipment as a packing list.

The system makes a distinction between pre-shippers and shippers and numbers them separately. This distinction accommodates businesses that must number their shipments consecutively. When you print pre-shippers, you can automatically turn them into shippers. If you do not assign a shipper number to a pre-shipper when you print it, the shipper number is assigned (based on an internal or external sequence) when the pre-shipper is confirmed in Pre-Shipper/Shipper Confirm (7.9.5).

Note If you are required to maintain consecutive shipper numbering based on the order in which products leave the dock, always create pre-shippers. You can turn them into shippers when they are ready to be sent, ensuring that consecutive shipper numbers are assigned.

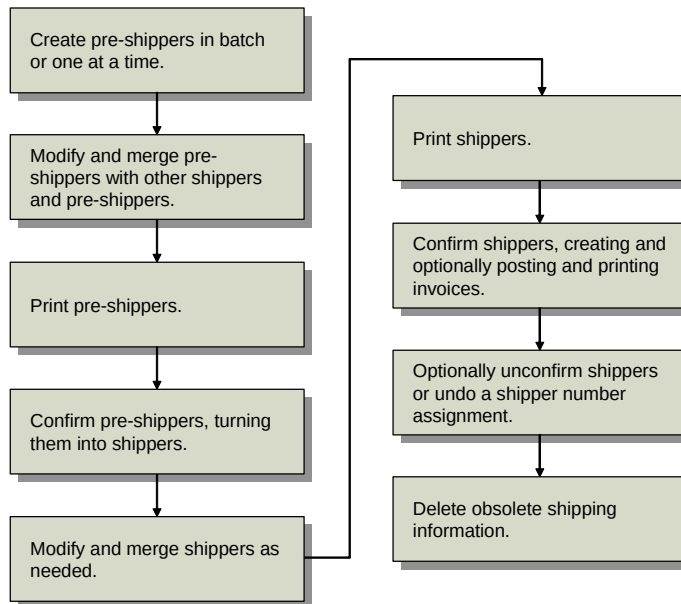
Customer demand drives pre-shipper creation and, therefore, detail allocation of product inventory. Requirements from sales orders and customer schedules become the pre-shipper, and the pre-shipper becomes the shipper. The data from each document carries forward with each step in the shipping cycle. Once created, pre-shippers can be merged into other pre-shippers or shippers using Pre-Shipper/Shipper Workbench (7.9.2).

Use Picklist/Pre-Shipper–Automatic (7.9.1) to create pre-shippers in batches. Use Pre-Shipper/Shipper Workbench (7.9.2) to create pre-shipper and shipper documents one at a time.

Workflow

The workflow in Figure 6.32 provides an overview of the activities involved in shipping with shippers. Pre-Shipper/Shipper Workbench (7.9.2) combines most shipment functions in one program; optionally you can use separate processing programs for each step.

Fig. 6.32
Container/Shipper Workflow



- 1 Use Picklist/Pre-Shipper–Automatic (7.9.1) to create pre-shippers in batches. Use Pre-Shipper/Shipper Workbench (7.9.2) to create pre-shipper and shipper documents one at a time and perform other processing functions.

Note You can also create pre-shippers by using EDI eCommerce import functions. See Chapter 6, “Importing Shippers,” on page 141.

- 2 Once created, you can merge pre-shippers into other pre-shippers or shippers with the workbench.
- 3 If you do not print the pre-shipper from the workbench, use Pre-Shipper/Shipper Print (7.9.4) to print pre-shippers and optionally confirm them, creating shippers.
- 4 If you do not confirm during printing of pre-shippers, Use Pre-Shipper/Shipper Confirm (7.9.5) to transform a pre-shipper into a shipper and optionally create, post, and print invoices based on shipments. Use Pre-Shipper/Shipper Auto Confirm (7.9.7) to confirm multiple pre-shippers and use standard invoice programs to process the invoices.
- 5 After creating shippers, modify them, merge them, and add containers in Pre-Shipper/Shipper Workbench.
- 6 If you do not print shippers from the workbench, use Pre-Shipper/Shipper Print to print the shipper.

- 7 If you do not confirm during printing of shippers, Use Pre-Shipper/Shipper Confirm (7.9.5) to confirm a shipper and optionally create, post, and print invoices based on shipments. Use Pre-Shipper/Shipper Auto Confirm (7.9.7) to confirm multiple shippers and use standard invoice programs to process the invoices.
- 8 Use Undo Shipper Number Assignment (7.9.20) to unassign a shipper number and turn a shipper back to a pre-shipper. Use Shipper Unconfirm (7.9.21) to reverse most actions that occur during confirmation.
- 9 Optionally remove shipper information when online records are no longer needed with Shipper Delete/Archive (7.9.23).

Shipment Processing Programs

Programs on the Shipment Processing Menu are listed in Table 6.3. The programs in bold text are an alternative to shipping with shippers and are discussed in Chapter 3, “Sales Orders/Invoices,” on page 15.

Table 6.3
Shipment Processing Menu (7.9)

Menu	Menu Label	Program Name
7.9	Shipment Processing Menu ...	
7.9.1	Picklist/Pre-Shipper–Automatic	sososl.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
7.9.7	Pre-Shipper/Shipper Auto Confirm	rcauis.p
7.9.8	Sales Order Shipper Maintenance	rcshmt.p
7.9.9	Sales Order Shipper Print	rcrp11.p
7.9.10	Manual SO Shipper Verification	rcvrfsh.p
7.9.13	Sales Order Packing List	sosopk.p
7.9.14	Sales Order Shipping Label Print	sosorp14.p
7.9.15	Sales Order Shipments	sosois.p
7.9.16	Shipper Report	sososhrp.p
7.9.18	Backlog/Missing Shipment Report	soshprp5.p
7.9.19	Fill Rate Report	soshprp4.p
7.9.20	Undo Shipper Number Assignment	rcslrb.p
7.9.21	Shipper Unconfirm	rcunis.p
7.9.22	Shipper Gateway	rcshgw.p
7.9.23	Shipper Delete/Archive	rcscdel.p
7.9.24	Container/Shipper Control	rcpm.p

Creating Pre-Shippers Automatically

Picklist/Pre-Shipper–Automatic creates pre-shippers for orders generated in Sales Order Maintenance (7.1.1) and Customer Scheduled Order Maintenance (7.3.13). Once you create a set of pre-shippers, you can merge them with other pre-shippers and shippers using Pre-Shipper/Shipper Workbench (7.9.2).

When it creates the pre-shippers, Picklist/Pre-Shipper–Automatic can create detail allocations and assign containers.

Before the system finishes creating a batch of pre-shippers, it prompts you to confirm each pre-shipper. You can verify that each pre-shipper printed correctly before recording detail allocation transactions.

Total shipping requirements can be broken down into multiple pre-shippers based on shipping weight, address list types, or other criteria set up in Picklist/Pre-Shipper–Automatic.

Allocating Inventory

When you create pre-shippers using Picklist/Pre-Shipper–Automatic (7.9.1), the system can detail allocate inventory depending on how you set it up.

In general, the system performs two types of allocations:

- *General allocations* reserve some quantity of an item number at a specific site to fill a specific confirmed order. This can be done in Sales Order Maintenance (7.1.1).
- *Detail allocations* reserve unexpired, on-hand inventory uniquely identified by site, location, lot/serial number, and reference number.

A detail allocation is often referred to as an item being picked, either for a manufacturing operation or a shipping order. Inventory can be allocated at several stages in the life cycle of a sales order:

- Sales Order Maintenance automatically creates general allocations for all orders due within a certain number of days, as specified in Sales Order Control. Detail allocations can be entered if the customer specifies particular lots or characteristics (Expire Date, Grade, Assay %).
- You can run Sales Order Auto Allocations (7.1.7) regularly to create general allocations for any orders due within a certain number of days. These orders are typically not allocated at order entry. Run this function by customer class to allocate scarce inventory to high priority customers first.
- Use Sales Order Manual Allocations (7.1.6) to override general or detail allocations.
- Sales Order Packing List (7.9.13) and Picklist/Pre-Shipper–Automatic (7.9.1) normally print allocated quantities only (set Print Only Lines to Pick to Yes). The pre-shipper details each item by quantity per location, lot, and reference number. The system converts general allocations to detail allocations at this time.

When you create a pre-shipper with Picklist/Pre-Shipper–Automatic, the allocations made to the original sales order are deleted and new allocations created for the pre-shipper. This is not true when you create a pre-shipper manually or add another sales order line to a pre-shipper with Pre-Shipper/Shipper Workbench. In this case, the pre-shipper allocations are in addition to the sales order allocations.

Important To prevent double allocations, you must delete the sales order allocations manually using Sales Order Manual Allocation.

When you run Picklist/Pre-Shipper–Automatic with Auto Allocation set to Yes and Stage Open Quantities set to No, the system detail allocates confirmed sales order lines. With Auto Allocation set to No, the system detail allocates the lesser of the general allocated quantity or the quantity to ship.

See “Auto Allocation” on page 130.

You can select orders by range of due date, sales order number, ship-to, language, site, address type, item number, and reference. These selection criteria determine which orders are processed. They have no effect on the sequence in which sales orders are picked and printed. The system always picks items for sales orders in sequence by customer code and then sales order number.

To ensure that orders with the most recent item due dates are picked, use Sales Order Auto Allocations to allocate the items by due date before using this function. Then when generating the pre-shippers, set Print Only Lines to Pick to Yes.

Running Picklist/Pre-Shipper–Automatic can produce different results based on the setting of Stage Open Quantities and Print Only Lines to Pick.

- Stage Open Quantities. If Yes, pre-shippers are created based on open sales order quantities, not allocated quantities. This lets you create pre-shippers for sales order lines even when sufficient inventory is not available. This option is useful when you are sure that inventory will become available soon.
- Print Only Lines to Pick. If Yes, only lines with an allocated quantity print. If No, all sales order line items with a non-zero open quantity are printed, regardless of the quantity allocated.

When Print Only Lines to Pick is No and an allocated quantity does not exist, a document still prints, but the pre-shipper number is blank. The document lists sales order line items with a quantity open greater than zero.

Using Containers with Automatic Pre-Shippers

Use Containers must be Yes to assign containers using this method. You can automatically assign containers created in Container Workbench (7.7.1) to pre-shippers using Picklist/Pre-Shipper–Automatic if they meet the following criteria:

- The container has not been assigned to another container, pre-shipper, or shipper.
- The container contains only the sales order line item number. Automatic container assignment does not work when containers include more than one item number.
- For customer scheduled orders only, the container item number is either the primary container for the scheduled order line or one of the alternate containers for the scheduled order line.
- The container is designed to hold a quantity of the sales order line item number that is equal to or less than the quantity of the sales order line.

See “Use Containers” on page 131.

Specifying Other Picklist Defaults

If Require Inventory Movement Codes is Yes in Cust Sched/Shipper Acct Control, the system looks for a default inventory movement code to assign to each picklist. An error is generated when:

- The system cannot find a default inventory movement code based on the shipping group.
- You are denied access to the code at the Ship-From site of the picklist/pre-shipper.

If movement codes are not required, picklists are created without them.

The system assigns a picklist/pre-shipper ID based on the NRM sequence ID for the inventory movement code and shipping group, or from Container/Shipper Control. In order for the system to dispense the number, the NRM sequence must be an internal sequence (system-generated). If the assigned NRM sequence is an external sequence, the system displays an error message.

The document format and carriers used are also based on defaults defined for the inventory movement code and shipping group, or Container/Shipper Control.

Consolidation Requirements

Consolidation requirements are based on the shipping group used for the shipment.

- If either the ship-to or ship-from address of the shipment prohibits consolidation, the system generates a new picklist for each sales order.
- If either the ship-to or ship-from address requires consolidation, and other consolidation criteria are met (such as weight and volume limitations), the system consolidates line items on a single picklist.

The Max Lines on a Pre-Shipper field in Container/Shipper Control limits the number of printed lines allowed on each picklist, which can limit the number of line items. This takes precedence over consolidation requirements.

Note The Break on Sales Order option also affects consolidation.

Selecting Sales Orders for Pre-Shipper Creation

The range of values you enter in the sales order selection fields of Picklist/Pre-Shipper–Automatic (7.9.1) determines the sales orders for which the system creates pre-shippers. Each of these fields includes a From and a To value. Leaving any of these fields blank results in the system considering all sales orders, regardless of the value of this field (see Figure 6.33).

Fig. 6.33
 Picklist/
 Pre-Shipper— Automatic (7.9.1)

You can select sales orders by range of due dates, order number, ship-to address, language, site, address list type, item number, or schedule reference. Reference applies to scheduled orders only.

Selecting Pre-Shipper Creation Options

The following fields define the system’s level of automation when creating pre-shippers, based on the sales order line items selected:

See Figure 6.33 on page 130.

Auto Allocation. Enter Yes to detail allocate matching, confirmed sales order lines, or No to ignore allocations. See “Allocating Inventory” on page 127.

Allocate Components. This field enables you to create detail inventory allocations for the components of configured kits.

No. The system bases the allocation on the site and location specified on the sales order line. The quantity to ship for a component is determined by the quantity open for the configured kit item rather than the quantity available to allocate for the component.

Yes: The system creates detail allocations for confirmed sales order lines. For detail allocations, set this field to Yes even when Available Kit Quantity to Ship (7.1.8) has been used to update detailed allocations.

Note The system only supports kits in discrete sales orders—not customer scheduled orders.

Ship Avail Qty for Kit. This field determines the quantity picked for kit items. A kit is a type of configured item that represents a set of items that are picked and shipped together; no real assembly takes place.

No: The quantity to ship for the kit item is set to the corresponding quantity open on the order line.

Yes: The system determines the component of the kit with the least quantity available to allocate. The quantity to ship for the kit item is set to this quantity. This ensures that complete kits are shipped.

Note Setting Stage Open Quantities to Yes overrides a Yes value in Ship Avail Qty for Kit.

Use Available Kit Quantity to Ship (7.1.8) to create or display allocations based on the kit component with the least quantity available to allocate.

Stage Open Quantities. Enter Yes to create pre-shippers for sales order lines that cannot be detail allocated because inventory is not available. Picklists are created based on open sales order line quantities. Enter No to ignore sales order lines for items without available inventory.

Note Because memo items cannot be detail allocated, this field has no effect on how such items are selected for printing on a picklist. Use Print Only Lines to Pick to control printing for memo items. See page 132.

A Yes for Stage Open Quantities overrides the effects of the Auto Allocation setting and overrides a Yes setting for Ship Avail Qty for Kit.

Use Containers cannot be Yes when this field is Yes. You cannot stage open quantities and also use containers. When this option is selected, only sales order information prints on the picklist.

Override Partial OK. Indicate if the system should consider the Partial OK setting in the trailer of each sales order when creating pre-shippers. This field defaults from Customer Data Maintenance (2.1.1) and specifies whether the customer accepts partial shipments.

No: The system checks the value of Partial OK on each order and creates pre-shippers based on this setting. If the setting is No for the order, the system verifies that all line items for each site represented on the order are available (allocated) and can be completely shipped. If this is not true, the pre-shipper does not include any of the line items from that site.

Example Lines 1 and 2 for site 100 and line 3 for site 200 all have the complete order quantity available. However, line 4 for site 200 has only a partial quantity available. When both Partial OK on the sales order and Override Partial OK are No, the pre-shipper includes only the site 100 lines.

Yes: Pre-shippers include all lines regardless of availability and the Partial OK setting on the order.

Use Containers. Enter Yes to assign containers meeting certain criteria, or No if you do not containerize shipments. See “Using Containers with Automatic Pre-Shippers” on page 128.

Break on Sales Order. Enter Yes to have the system create separate pre-shippers for each sales order in the selection with the same ship-to address code or No to have the system create a combined pre-shipper for all sales orders in the selection with the same ship-to address code.

Break on Maximum Weight. Enter the maximum gross weight for a pre-shipper.

- If zero, the system creates pre-shippers without regard to maximum gross weight.
- If nonzero, the system checks the pre-shipper gross weight before adding a sales order line item to it to make sure the line item does not exceed the maximum gross weight value. If a sales order line item exceeds the maximum gross weight value, the system creates a new pre-shipper.

UM (Weight). Enter the unit of measure of the Break on Maximum Weight value.

Break on Maximum Volume. Enter the maximum volume for a pre-shipper.

- If zero, the system creates pre-shippers without regard to maximum volume.

- If nonzero, the system checks the pre-shipper volume before adding a sales order line item to it to make sure the line item does not exceed the maximum volume value. If a sales order line item exceeds the maximum volume value, the system creates a new pre-shipper.

UM (Volume). Enter the unit of measure of the Break on Maximum Volume value.

Selecting Printer Options

Include Packing List Comments. Enter Yes to leave room on each pre-shipper page to print packing list comments or No to ignore the size of packing list comments in consideration of the number of lines on the pre-shipper. This setting works in relation to the Max Lines on a Pre-Shipper setting in Container/Shipper Control (7.9.24). If zero, the Include Packing List Comments setting has no effect. See Figure 6.33 on page 130.

Print Only Lines to Pick. Enter Yes to only print sales order line item numbers that have been detail allocated on packing lists or No to print all sales order line item numbers regardless of allocations.

This field defaults from the setting of Pick Only Allocated Lines in Sales Order Control.

If Receive F/A in SO is Yes in Configured Products Control (8.24), configured items always print on the picklist, regardless of how Print Only Lines to Pick is set. See page 297.

Stage Open Quantities also affects how inventory items are selected for printing in this program, based on whether they are detail allocated. However, memo items cannot be detail allocated. Print Only Lines to Pick is the only field that controls selection of memo items for printing on a picklist, regardless of the Stage Open Quantities setting. If Print Only Lines to Pick is No, the memo item open quantity prints on the picklist. If the field is Yes, only the allocated quantity of the memo item prints. If no quantity is allocated, the printed picklist does not include the memo item.

See page 131.

Print Features and Options. Enter Yes to print configured sales order line item numbers followed by a list of features and options selected for the item or No to only print the configured item number.

Print Packing List Comments. Enter Yes to print packing list comments or No to not print packing list comments.

Create Pre-Shipper in SO UM. When an alternate unit of measure is specified on a sales order, indicate which unit of measure the system should use when creating the picklist/pre-shipper:

No: The picklist/pre-shipper is created and printed using the stocking unit of measure for the item on the sales order, as specified in Item Master Maintenance.

Yes: The picklist/pre-shipper is created and printed using the unit of measure specified on the sales order in Sales Order Maintenance.

To print the pre-shipper/shipper later, use Pre-Shipper/Shipper Print, which lets you select either the sales order unit of measure or the shipper unit of measure.

Form Code. Specify the form code of the document format on which you want these documents to print. You can customize forms to suit your business needs. See “Creating Custom Shippers” on page 180 for details.

Running Picklist/Pre-Shipper–Automatic

The following instructions give a generalized view of how to use Picklist/Pre-Shipper–Automatic. The settings you use depend on the processes and methods employed in your operation. Review the previous sections carefully to make sure you understand how this program works and what settings you must make in this and other programs in order to get the results you want.

- 1 Choose Picklist/Pre-Shipper–Automatic (7.9.1) and enter a range of values matching the numbers of the sales orders for which you want to create pre-shippers. See page 129.
- 2 Choose the pre-shipper creation and print options you need for the specified selection of sales orders. See “Selecting Pre-Shipper Creation Options” on page 130 and “Selecting Printer Options” on page 132.
- 3 Choose a device in Output and, optionally, enter a Batch ID. The system displays a message while the report is running.
When the report is complete, you are prompted to update the quantity picked.
- 4 Review the report to confirm that the correct sales orders have been selected and that the Pre-Shipper List is satisfactory.
- 5 Choose Yes at the Update Quantity Picked? message to accept the update and continue processing the transactions or No to modify your sales order selections or the update parameters.
- 6 If you chose No in step 5, repeat Steps 2 through 5 until you are satisfied with the Pre-Shipper List.

Figure 6.34 shows a sample picklist.

Fig. 6.34
Sample Picklist

Ship To: 2000-1		P I C K L I S T / P R E - S H I P P E R				
SoCal Electrical		Pre-Shipper: PS000123				
22314 W. 199th St.		Page: 1				
Torrance, CA 90278		Print Date: 08/02/06				
United States of America						
Sales Order: so10068 Order Date: 08/02/06 Ship To PO:						
Ln	Item Number	Site T Location	Lot/Serial Ref	Qty Open Qty to Ship	Open UM	Due Shipped
1	TT-610	T100				
small wire clip				1000.0 EA 08/07/06		

Creating Shippers Manually

Use Pre-Shipper/Shipper Workbench (7.9.2) to do the following:

- Modify picklists/pre-shippers.
- Create pre-shippers to document the contents and structure of an actual shipment.
- Establish a master container hierarchy. The hierarchy can be modified after initial creation.

In Pre-Shipper/Shipper Workbench, the Ship-From, Pre-Shipper/Shipper, and Number fields uniquely identify shipping documents. If a pre-shipper exists for the entered values, that pre-shipper is retrieved. If a pre-shipper or shipper does not exist for the entered values, a new document is created.

1 Choose Pre-Shipper/Shipper Workbench (7.9.2).

Fig. 6.35
Pre-Shipper/
Shipper Workbench (7.9.2)

Leave Number blank to have the system assign the document number.

- 2** Enter the site code from which this shipment originates in Ship-From. This site must have a valid associated address record. If inventory movement codes are required, a shipping group must be available for the Ship-From and Ship-To/Dock address combination.
- 3** Choose either Pre-Shipper or Shipper in Pre-Shipper/Shipper:
 - Enter Pre-Shipper to create a pre-shipper document that can later be turned into a shipper. A shipper number is not assigned until the pre-shipper is turned into a shipper document.
 - Enter Shipper to create a shipper document with a shipper number.
- 4** Enter a new number in Number (external sequence) or leave it blank to have the system assign a default pre-shipper or shipper number (internal sequence), depending on your selection in step 3.
- 5** Enter a customer, ship-to, or dock address code in Ship-To/Dock. If inventory movement codes are required, a shipping group must be available for the Ship-From and Ship-To/Dock address combination, and displays in the next field, for reference. See “Define Inventory Movement Codes” on page 90.
- 6** For global shipping, enter a valid inventory movement code. Inventory movement codes determine NRM sequences, carriers, and document formats. This field defaults to the value assigned in the shipping group if one applies. Otherwise, inventory movement code remains blank.

When you click Next, the system:

- Retrieves and displays the shipping group, based on the Ship-From and Ship-To/Dock address combination.
- Validates the inventory movement code against the shipping group.
- If shipper ID is blank or does not exist, the system:
 - Verifies your access to the inventory movement code, based on site/inventory movement security.
 - Creates a new shipper.

- Retrieves and displays a valid NRM sequence number, based on the shipping group and inventory movement code (if shipper ID is blank), or validates the number you entered.
- Retrieves all other shipping group and inventory movement defaults from the control programs, including carriers and document formatting parameters.
- If you specified an existing shipper, the system:
 - Retrieves the shipper.
 - Verifies your access to the inventory movement code, based on site/inventory movement security.
 - Issues a warning if you enter a Ship-To address or inventory movement code that differs from those stored in the actual shipper record.
 - Displays the Ship-To address and inventory movement code, obtained from the existing shipper record.

Finally, the system displays the Carrier Detail frame.

Fig. 6.36
Pre-Shipper/
Shipper Workbench, Carrier Detail

- 7 Enter the carrier data for this shipment.
Carrier, Ship Via, FOB Point, Mode of Transport, Carrier Shipment Reference, Vehicle ID, Payment Type, and Carrier Account appear on various printed documents.
- 8 Set the Multi field to Yes if this shipment requires more than one carrier. The system prompts you for additional carriers. See “Adding Multiple Carriers” on page 140 for details.
- 9 Enter a valid document format of a type applicable to shippers, or leave this field blank. If the document format is edited for a shipper marked as having been printed, the system issues a warning message, but lets you continue.
- 10 Consolidate indicates whether this shipment can be consolidated by transactions of a given type. Enter No to prohibit consolidation. Enter Optional to allow but not require consolidation. Enter Yes to require consolidation.
- 11 The Language field contains the default language for retrieving header, line item, and trailer comments with the shipper.
- 12 The Merge Other Pre-Shippers field is automatically set to No and cannot be edited if the shipper is confirmed or is not a sales order shipper. Specify Yes if you want to combine several pre-shippers together. Pre-shippers can be merged only if consolidation and NRM sequence number discarding restrictions are not violated. Canceled pre-shippers cannot be merged.

You can merge any number of pre-shippers sharing the same Ship-To/Dock address code. This setting only works with pre-shipper documents. You cannot view merged pre-shippers using their original pre-shipper number after they have been merged.

- 13 Choose Yes in Comments if you want to attach any information about this document. The Master Reference field defaults to the document format of the shipper, and the Language field defaults to the language of the shipper. This enables you to copy comments associated with the document format to the line item of the shipper.

Skip steps 14 through 16 if you selected No in Merge Other Pre-Shippers. If you chose Yes in Merge Other Pre-Shippers and No in Multi, the Merge Pre-Shipper pop-up appears. If you chose Yes in Merge Other Pre-Shippers and Yes in Multi, the Merge Pre-Shipper pop-up appears after the Carrier window.

- 14 Enter a pre-shipper number in the Merge Pre-Shipper pop-up. A message confirms the update.
- 15 Repeat step 14 for each pre-shipper you want to merge.
- 16 Choose No in Merge Other Pre-Shippers when you are done adding the pre-shippers you want to merge together.

The Shipper Detail frame appears.

Fig. 6.37
Pre-Shipper/
Shipper Workbench, Shipper Detail

Pre-Shipper/Shipper Workb...

Pre-Shipper/Shipper Workbench: Go To ACTIONS

Shipper Workbench

Level	Order Ln	Item Number	Quantity	UM	Container	Canc	B/O
0	Shipper: 10000/SH15	Ship-To: 1002AB					

Sales Order: Line: Order: Quantity: UM: Site: Loc: Qty Picked: Lot/Serial: Reference: Type: Net Weight: Consume Req: ID: Tare Weight: Description: Gross Weight: Volume: Comments: Cancel B/O:

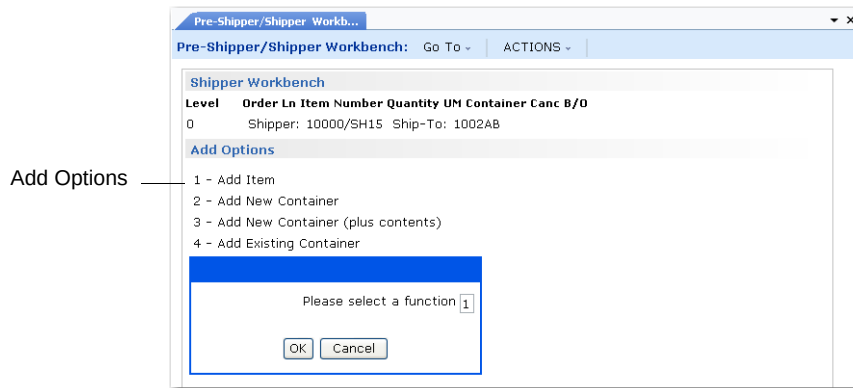
From the Shipper Detail frame you can:

- Add items, containers, and containers of items to a shipper.
- Delete items, containers, containers of items, and shippers.
- Remove containers and containers of items from a shipper without deleting the container or container of items.

Adding an Item to a Shipper

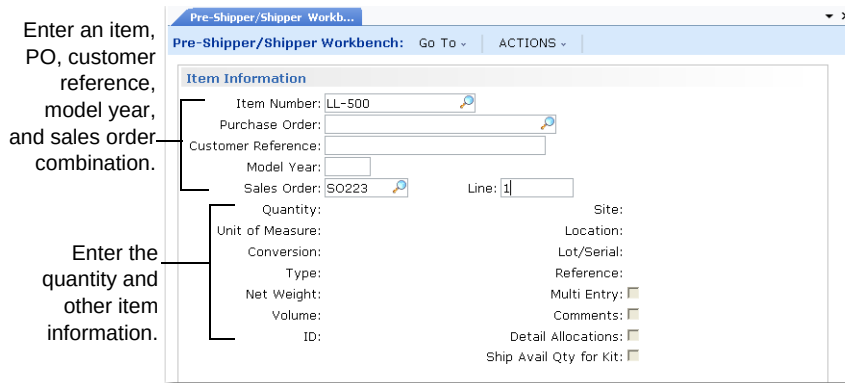
- 1 Select a container number, pre-shipper number, or shipper number from the Shipper Detail frame
- 2 Use the Add command appropriate for your user interface.
The Add Options pop-up appears.

Fig. 6.38
Pre-Shipper/Shipper Workbench, Add Options Pop-Up



- 3** Choose Option 1 to add an item.
The Item Information frame appears.

Fig. 6.39
Pre-Shipper/ Shipper Workbench, Item Information



- 4** Enter the item number, customer reference number, or model year for the item you want to add and one of the following orders identifying it:
- Purchase order number
 - Sales order and line item number.
 - Customer schedule

An open, scheduled sales order, customer schedule, or purchase order must exist for the ship-from site code and ship-to/dock address code you assigned to the pre-shipper or shipper document.

- 5** Enter the quantity to be shipped for this order or schedule and other item information. The ID field contains the final assembly work order for an ATO configured item. This value is used when confirming the shipper. The Detail Alloc field specifies if detail allocations are created. For an ATO item, entering Yes creates a detail allocation for the quantity to ship for this item from the quantity available. For a kit configured item, entering Yes creates detail allocations for the components of the item. Enter No if you do not want to create detail allocations.

See “Allocating Inventory” on page 127.

The Shipper Detail frame appears.

See Figure 6.37 on page 136.

- 6 Repeat steps 1 through 5 for each item you want to add.

Adding a Container to a Shipper

- 1 Select a container number, pre-shipper number, or shipper number from the Shipper Detail frame using the arrow keys.
- 2 Use the Add command appropriate for your user interface.
The Add Options pop-up appears.
See Figure 6.38 on page 137.
- 3 Choose Option 2 to add a container.
You can add containers created in Container Workbench to a pre-shipper only. Containers created in Container Workbench can also be selected by Picklist/Pre-Shipper–Automatic.
The Container Information frame displays.

Fig. 6.40
Pre-Shipper/Shipper Workbench, Container Information

The screenshot shows a 'Container Information' dialog box with the following fields:

- Next Container: [text box]
- Container Item: [text box]
- Quantity: 1
- Unit of Measure: [text box]
- Tare Weight: [text box]
- Volume: [text box]
- Sales Order: [text box]
- Site: [text box]
- Location: [text box]
- Lot/Serial: [text box]
- Reference: [text box]
- Multi Entry: [checkbox]
- Order Line: [text box]

If you leave Next Container blank, the system assigns a default container number.

- 4 Enter the item number for the container you want to add to this shipment and other container information.
The Shipper Detail frame appears.
See Figure 6.37 on page 136.
- 5 Repeat steps 1 through 4 for each container you want to add.

Adding a Container of Items to a Shipper

- 1 Select a container number, pre-shipper number, or shipper number from the Shipper Detail frame using the arrow keys.
- 2 Use the Add command appropriate for your user interface.
The Add Options pop-up appears.
See Figure 6.38 on page 137.
- 3 Choose Option 3 to add a container of items.
The Container Information frame appears.
See Figure 6.40 on page 138.
- 4 Enter the item number for the container you want to add and other container information.

You cannot add a container created in Container Workbench to a shipper. Containers created in Container Workbench can only be selected by Picklist/Pre-Shipper–Automatic.

The Item Information frame appears.

See Figure 6.39 on page 137.

- 5 Enter the item number, the customer reference, or the model year for the item you want to add, and either the purchase order, sales order, or customer schedule that includes the item you want to add.

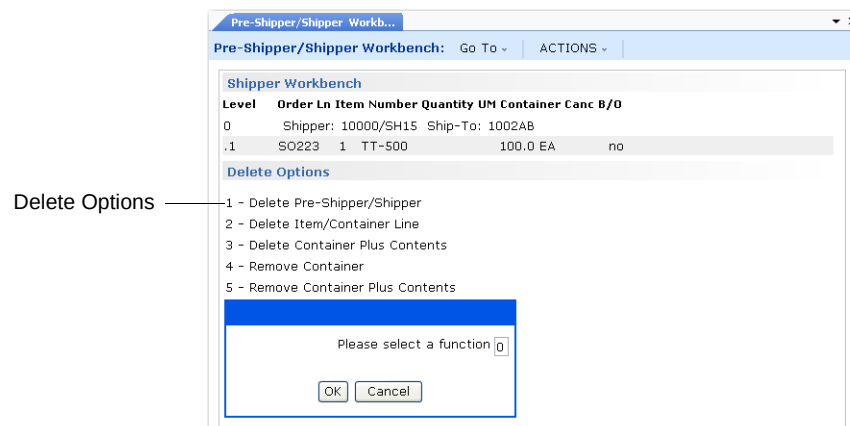
An open, scheduled sales order, customer schedule, or purchase order must exist for the ship-from site code and ship-to/dock address code you assigned to the pre-shipper or shipper document.

- 6 Enter the quantity to be shipped from this order or schedule and other item information. The Shipper Detail frame appears.
- 7 Repeat steps 1 through 6 for each item you want to add.

Deleting or Removing Items/Containers/Shippers

- 1 Select a container and use the Delete command appropriate for your user interface.
- 2 The Delete Options pop-up displays.

Fig. 6.41
Pre-Shipper/Shipper Workbench, Delete Options Pop-Up



- 3 Choose one of the following options:

Choose	To
1-Delete Pre-Shipper/Shipper	Delete the entire container from the database.
2-Delete Item/Container Line	Delete a container or item line from the database. Any container or item belonging to the deleted container or item line is moved up one level. You cannot delete a container line if it results in an item that does not have a container line.
3-Delete Container plus Contents	Delete a container and all containers or items belonging to it.

Choose	To
4-Remove Container	Remove a next-level container from a container. The container can still be accessed under its own container number.
5-Remove Container plus Contents	Remove a next-level container and all containers or items belonging to it from a container. The container can still be accessed under its own container number.

4 You are prompted to confirm deletion. Enter Yes to continue deleting or No to cancel.

Adding and Editing Trailer Information

After maintaining line items, the Trailer Information frame displays.

Fig. 6.42
Pre-Shipper/Shipper Workbench, Trailer Information

- 1 The Status field specifies whether the shipper is active or canceled. Leave this field blank for active shippers. To cancel a shipper, enter X. A canceled shipper is ignored by the system and unavailable for processing, other than deleting or archiving. You cannot cancel a confirmed shipper.
- 2 The Cancel Date field contains the date the shipper was canceled. The system sets this field to the current date when an open shipper is canceled. When a canceled shipper is reopened, the system sets the date to blank.
- 3 The Trailer Comments field indicates whether trailer comments can be associated with this shipment. Enter Yes to enter trailer comments. The system prompts you for your comments. Enter No if you do not want to add comments.

Adding Multiple Carriers

If you specified that you want multiple carriers for this shipment, the Carriers frame displays after completing the header information.

See step 8 on page 135.

Fig. 6.43
Pre-Shipper/Shipper Workbench, Carriers Frame

Seq	Carrier	Name
1	TMK	TMK Trucking
2	FedEx	Federal Express

Seq. This field indicates the order in which the various carriers handle shipments for this inventory movement code and shipping group. The ship-from site of a shipment turns over possession to the first carrier, who may later turn over possession to a second carrier, and so forth, before the shipment is eventually delivered to the ship-to destination.

Since you can remove any carrier and the system does not automatically renumber remaining carriers, the lowest-numbered carrier is always considered the first carrier. For sequence, enter an integer greater than zero that is unique to this shipping group and inventory movement code.

Note This Sequence field is not the same as an NRM sequence.

Carrier. This field identifies the carrier to be used for shipments within this shipping group, for this inventory movement code, in the sequence defined by the Seq field. Enter an existing carrier address code.

Name. This field displays the name of the carrier you entered in the Carrier field and cannot be edited.

Deleting Shipments

To delete a shipment created with Pre-Shipper/Shipper Workbench, NRM must permit the assigned sequence number to be deleted. If the sequence number cannot be deleted, you can cancel the shipper using the Status field on the trailer frame. If the shipper was converted from a pre-shipper, the system also checks whether the NRM pre-shipper number can be deleted. If not, the shipper cannot be deleted.

Importing Shippers

Some companies contract with external warehouse providers not using the QAD system to stock items and ship them in response to customer sales orders. They communicate the demand to the warehouse using some form of shipping authorization. Although these companies do not actually ship the items themselves, they must have shipment records in the database. These records are required to complete the sales order process by updating inventory and invoicing the customer. If appropriate to the trading partner relationship, the shipper is also needed to generate an advance ship notice (ASN) informing the customer that the order has been shipped.

In such cases, the warehouse service provider may provide shipping information in electronic data interchange (EDI) format. This EDI document—most commonly called a sales order shipping advice—can then be imported using Document Import (35.1) in the EDI eCommerce module.

See *User Guide: QAD EDI eCommerce* for information.

After importing the shipping advice, which is recorded as an unconfirmed shipper, use Pre-Shipper/Shipper Confirm (7.9.5) or Pre-Shipper/Shipper Auto Confirm (7.9.7) to confirm it. Then you can generate an invoice or ASN just as though you had shipped the order directly to the customer instead of through the warehouse service provider.

See “Confirming Shippers” on page 144.

Printing Shippers

Use Pre-Shipper/Shipper Print (7.9.4) to print shipping documents. You can print either pre-shippers or shippers, but not both at the same time. You can select pre-shippers and shippers based on the sequence number, document format, language, and carriers.

Fig. 6.44
Pre-Shipper/
Shipper Print (7.9.4)

The screenshot shows the 'Pre-Shipper/Shipper Print' window. It is divided into two main sections. The top section, labeled 'Shipping Document Selection Fields', contains several input fields for selection: 'Ship-From:', 'Ship-To/Dock:', 'Number:', 'Inventory Movement Code:', 'Document Format:', 'Language:', 'Address List Type:', and 'Carrier:'. To the right of these are five 'To:' fields. The bottom section, labeled 'Print Options', contains a dropdown menu for 'Print Pre-Shippers/Shippers:' (set to 'Pre-Shipper'), checkboxes for 'Include Printed Pre-Shippers/Shippers:', 'Print Features and Options:', 'Assign Shipper Numbers:', 'Include Pre-Shipper/Shipper Comments:', 'Include Sales Order Packing List Comments:', 'Print Sales Order Detail:', and 'Display Quantity In SO UM:'. There is also a text field for 'Shipper Sequence ID:'. On the right side of the 'Print Options' section, there are fields for 'Entity Address: 10000000' and 'Print Lot/Serial Numbers:'. At the bottom right, there are fields for 'Output:' and 'Batch ID:'.

Selecting Documents to Print

The range of values you enter in the Pre-Shipper/Shipper Print selection fields determines which pre-shippers or shippers print. Each of these fields includes a From and a To value. Leaving any of these fields blank results in the system considering all pre-shippers and shippers, regardless of the value of this type.

You can select documents to print by range of ship-from address, ship-to or dock address, order number, inventory movement code, document format, language, address list type, and carrier. For shipments with multiple carriers, only the first carrier is considered.

Note Select documents by language when you are using preprinted forms in a specific language.

Selecting Print Options

The following fields define the actions you want the system to take when it prints shipping documents based on the specified selection:

Print Pre-Shippers/Shippers. Enter Pre-Shipper or Shipper, depending on the shipping document type you want to print.

Include Printed Pre-Shipper/Shipper. Enter Yes to reprint documents in the specified selection that have already been printed or No to skip documents in the selection that have already been printed.

Print Features and Options. Enter Yes to print configured sales order line item numbers followed by a list of features and options selected for the item or No to only print the configured item number.

Assign Shipper Numbers. This field specifies whether you want the system to assign a shipper number to the pre-shipper. The system propagates the new shipper numbers to all records linked to the converted pre-shipper, including containers, line items, and carrier detail records.

In order for the system to generate a number, the NRM sequence for the pre-shipper/shipper must be an internal sequence generated by the system. If the assigned NRM sequence is external, the pre-shipper/shipper is skipped. To use an external sequence, you can assign the shipper number during shipper creation (if pre-shippers are not used), or during confirmation (if pre-shippers are used).

Shipper Sequence ID. Enter an NRM sequence ID to select the pre-shippers or shippers you want to print. The way you use this field differs, depending on whether you are printing pre-shippers or shippers.

- For pre-shippers, the system compares the specified sequence to the sequence that *will be* used to assign a shipper number when the pre-shipper becomes a shipper. The sequence used to assign the pre-shipper ID is not considered.
- For shippers, the system compares the specified sequence ID to the sequence that *was* used to assign the shipper number to each shipper.

Use this field when you want to assign shipper numbers sequentially at print time. Shipper number can be drawn from multiple NRM sequences based on the associated shipping group and inventory movement code. Limiting selection to a single sequence ensures numbers are assigned sequentially as documents are printed.

Include Pre-Shipper/Shipper Comments. Enter Yes to include pre-shipper or shipper comments for the specified selection on the printed documents or No to not include such comments.

Include Sales Order Packing List Comments. Enter Yes to include packing list comments for the specified selection on the printed documents or No to not include such comments.

Print Sales Order Detail. This field determines whether the sales order number and the sales order line number associated with line items on the shipper is included in the printed output.

Reviewing sales order data provides detailed accountability for the shipper items. It can also be used to determine if the sales order or line associated with an item on a shipper no longer exists in the system. This condition will cause an error when a shipper is issued or confirmed.

Display Quantity in SO UM. Indicates which unit of measure (pre-shipper/shipper UM or sales order UM) to use in the printed output. This field applies only when the two UMs are not the same.

No: Display the quantity and UM according to the pre-shipper/shipper UM.

Yes: Displays the quantity and UM according to the sales order UM.

To use the sales order UM, the sales order lines must not be completely shipped, invoiced, and posted.

Print Lot/Serial Numbers. Specify whether a complete list of each of the lot/serial and lot reference numbers shipped is to print on this shipper or pre-shipper.

Yes: Each line item shipped is followed by a list of the lot/serial and lot reference numbers shipped.

No: Only the total shipped quantity prints for each line item.

Updating Documents

When printing completes, you are prompted to confirm that the documents printed correctly. Review the printed shipping documents and respond appropriately. If you enter No, documents are considered unprinted.

When you indicate that the documents did not print correctly and you specified Yes to Assign Shipper Numbers, you are also prompted to undo shipper number assignment. If you reply Yes to this second prompt, the system reinstates the pre-shipper and either cancels or deletes the shipper that was created. How the shipper is affected depends on the setting of Allow Discarding specified in Number Range Maintenance (36.2.21.1) for the NRM sequence used to generate the shipper number.

- If Allow Discarding is Yes, the system reinstates the pre-shippers and deletes the shipper documents. The next shipper number generated will start after the last deleted shipper number, leaving a gap in numbering.
- If Allow Discarding is No, the system reinstates the pre-shippers and creates empty shippers (without detailed lines), with a status of canceled.

See “Shipper Number Assignment” on page 87.

Confirming Shippers

Use two programs to confirm shipper documents:

- Pre-Shipper/Shipper Confirm (7.9.5) records individual shipments and:
 - Converts pre-shippers into shippers
 - Creates, posts, and prints invoices based on shipments
- Pre-Shipper/Shipper Auto Confirm (7.9.7) performs similar functions for multiple shipments.

Note Because Pre-Shipper/Shipper Auto Confirm is a batch program, its features are not identical to those of Pre-Shipper/Shipper Confirm. See “Confirming Multiple Shippers” on page 148.

You can export a confirmed shipper as an advance ship notice (ASN) to inform your customer that an order has been shipped. Export ASNs using EDI eCommerce.

See *User Guide: QAD EDI eCommerce*.

Confirming Individual Shippers

Use Pre-Shipper/Shipper Confirm to select a single pre-shipper or shipper document to be confirmed.

Fig. 6.45
Pre-Shipper/
Shipper Confirm (7.9.5)

When you confirm a pre-shipper, the system converts it to a shipper before the confirmation process occurs. The shipper number is assigned based on the NRM sequence ID from the shipping group of the shipment or from Container/Shipper Control.

If the NRM sequence is an internal sequence, the system generates and displays the shipper number. If the sequence is external, the system prompts you for an entry and validates the results. The system propagates the new shipper numbers to all records linked to the converted pre-shippers, including containers, line items, and carrier detail records.

The following applies when confirming pre-shippers or shippers:

- Canceled shipments (Status is X) cannot be confirmed.
- To select a shipper for confirmation, you must have access, as defined in Inventory Movement Code Security.
- If Cust Sched/Shipper Acct Control specifies that trailer amounts cannot be maintained, the system does not display the trailer amount maintenance frames during confirmation.

Selecting Confirmation Options

The following fields define the shipment selection and the dates the system uses to apply the shipment transactions. The dates to record shipments should be considered in relation to GL period end and the dates used to record invoice posting/printing.

See Figure 6.45 on page 145.

Ship-From. The site code of the site from which the shipment originates.

Pre-Shipper/Shipper. Enter Pre-Shipper or Shipper, depending on the shipping document type you want to confirm.

Number. Enter the identifying number for the pre-shipper/shipper you are confirming. You can only specify sales order shippers for confirmation. The system determines the source of demand for a shipper by checking the transaction type of the assigned inventory movement code.

Ship-To/Dock. Enter the ship-to or dock address code assigned to the selected shipping document.

Ship Date. The system displays the last date a shipment was processed for the order underlying this shipping document. The default is the system date.

Effective. The date of this shipment. The default is the system date. The effective date determines the date of the GL transaction to inventory. The effective date has no effect on the inventory balance update, which is updated immediately.

Managing Shipments at Period End

While the ship date and effective date are usually the same, you can assign shipment effective dates that occur earlier or later than the actual date of the shipment, provided that the entered effective date falls in an open GL period.

For example, if the accounting period ends on a Friday, but you cannot get all of the shipping and invoicing activity entered into the system until Monday, you can leave the GL period open and process the remaining shipment and invoice documents with Friday's date as the effective date.

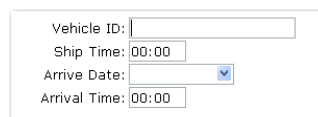
Matching Dates on Corresponding Transactions

The Effective Date specified in Pre-Shipper/ Shipper Confirm should be the same date in Invoice Post and Print. Otherwise, your shipment history for the period does not correspond to your accounts receivable and GL balances.

Entering Reference Data

Optionally, you can use the second frame to enter reference data associated with the pre-shipper/shipper, including an identifier for the carrier's vehicle, the time of the shipment, and the arrival date and time.

Fig. 6.46
Pre-Shipper/
Shipper Confirm, Reference Data Frame

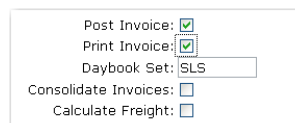


A screenshot of the Reference Data Frame in the Pre-Shipper/Shipper Confirm window. It contains four input fields: 'Vehicle ID:' with a text box, 'Ship Time:' with a time picker set to '00:00', 'Arrive Date:' with a date picker, and 'Arrival Time:' with a time picker set to '00:00'.

Selecting Invoice Options

The fields in the third frame of Pre-Shipper/Shipper Confirm determine how the system processes the invoices generated by this function.

Fig. 6.47
Pre-Shipper/
Shipper Confirm, Invoice Options Frame



A screenshot of the Invoice Options Frame in the Pre-Shipper/Shipper Confirm window. It contains five fields: 'Post Invoice:' with a checked checkbox, 'Print Invoice:' with a checked checkbox, 'Daybook Set:' with a text box containing 'SLS', 'Consolidate Invoices:' with an unchecked checkbox, and 'Calculate Freight:' with an unchecked checkbox.

Post Invoice. Use this field to indicate whether to post an invoice for the selected shipment during confirmation.

No: The invoice is not posted. You can post it later using Invoice Post and Print (7.13.4).

Yes: The invoice is automatically posted.

Print Invoice. Specify whether an additional frame displays to let you print the invoice at the end of processing.

Note This field can be Yes only when Post Invoice is Yes. You cannot print an invoice unless it has been posted.

The following document formats are provided for printing invoices:

- The standard invoice format is form code 1.
- To print a Brazilian Nota Fiscal, use form code 11.

Other forms used by your company can be assigned different form codes. Only predefined form codes can be referenced.

Daybook Set. Enter the code for the set of daybooks that the system will use during invoice post. This defaults from the sales order. You can change it to a valid value defined in Daybook Set Maintenance (25.8.7) or Daybook Set by Site Maintenance (25.8.10). If daybooks have been set up by site—based on a setting in Sales Order Accounting Control (36.9.6)—the system verifies that the specified daybook set matches the sales order site.

Consolidate Invoices. This field indicates whether the system combines data for multiple sales orders into one invoice or generates a separate invoice for each sales order on the selected shipper.

Calculate Freight. Enter Yes to indicate that the system should recalculate freight charges for all sales orders attached to the shipper being processed. Otherwise, enter No.

If you enter Yes, any previous, manually entered freight charges will be recalculated.

Posting Invoices at Confirmation

If you invoice cumulatively or want to post invoices during shipper confirm for other reasons, set the following fields to Yes Cust Sched/Shipper Acct Control (36.9.7) to determine default values in Pre-Shipper/Shipper Confirm:

- Auto Invoice Post
- Consolidate Invoices

When Consolidate Invoices is Yes in Pre-Shipper/Shipper Confirm, the system generates a single consolidated invoice for sales orders with the following identical values:

• Sold-to address	• Trailer codes
• Bill-to address	• Tax environment
• Currency	• Sales entity
• Exchange rates	• Salespersons
• Credit terms	• Daybook set

Note The sales entity associated with an order is determined by the site specified in the order header. When the header site is blank, the domain's primary entity is used.

Maintaining Sales Order Trailer Amounts

You can enter trailer amounts for each sales order associated with the shipment.

Fig. 6.48
Pre-Shipper/ Shipper Confirm, Sales Order Trailer Amounts

Sales Order: SO223 Trailer Amounts			
Service	10		0.00
Freight	20		0.00
Special	30		0.00

- 1 The Sales Order field contains the sales order number for the trailer amounts entered.
- 2 Trailer descriptions fields display in the left portion of the frame and contain a description for the adjacent sales order trailer code.
- 3 Trailer codes fields display to the right of the trailer descriptions and contain the sales order trailer code associated with the adjacent description.
- 4 Trailer amount fields display to the right of the trailer codes and contain the trailer amount for each adjacent code. Trailer amounts display on invoice documents. You can enter the same amounts during or after shipment confirmation using Pending Invoice Maintenance.

Confirming Multiple Shippers

Use Pre-Shipper/Shipper Auto Confirm (7.9.7) to select pre-shippers or shippers based on ranges of ship-from sites, ship-to addresses, shipper numbers, or inventory movement codes.

Fig. 6.49
Pre-Shipper/Shipper Auto Confirm (7.9.7)

This program functions much like Pre-Shipper/Shipper Confirm (7.9.5). However, because it is a batch process, the program's features are limited in these areas:

- You post invoices, but do not print them. Instead, use Invoice Print or Reprint (7.13.12).
- You cannot update trailer charges during confirmation regardless of the setting of Maintain Trailer Amounts in Cust Sched/Shipper Acct Control. Instead, use Sales Order Maintenance (7.1.1).
- Error reporting related to freight charges is not as detailed as in Pre-Shipper/Shipper Confirm.

Set Print Selection Only to Yes to review the effects of the selection criteria before updating the shippers in the database. When the field is No, the system confirms all shippers meeting the selection criteria before generating the report.

Sales Order Shipper Maintenance

Sales Order Shipper Maintenance (7.9.8) supports the following shipping features:

- Shipping documents with assigned document formats.
- Shipping documents with assigned NRM sequence IDs.
- Ship-from sites with an assigned address code.

However, you cannot use Sales Order Shipper Maintenance to edit a shipper that uses an inventory movement code. To edit these shippers, use Pre-Shipper/Shipper Workbench (7.9.2). Shippers created in Sales Order Shipper Maintenance have a blank inventory movement code.

Undoing an Assigned Shipper Number

Use Undo Shipper Number Assignment (7.9.20) to unassign a shipper number and change the document type from shipper to pre-shipper. You can only undo an unconfirmed shipper.

When you undo a shipper number, the original pre-shipper number is reassigned. This can occur only if NRM permits the discarding of the associated sequence number. If the sequence number cannot be discarded, the shipper is not rolled back and is reported as such on the Undo Shipper Number Assignment status report. Shipping documents originally created as shippers cannot be converted back to pre-shippers.

Fig. 6.50
Undo Shipper Number Assignment (7.9.20)

Enter values in the following fields to undo a shipper number assignment:

Ship-From. Enter a range of site codes from which the shippers you want to undo originate. Only those shippers with ship-from addresses in the specified range are processed. Leave these fields blank to process all shippers.

Shipper. Enter a range of shipper numbers to undo. Only those shipper numbers within the specified range are processed. Leave these fields blank to process all shippers.

Ship-To. Enter a range of ship-to addresses to select which shipper number to undo. Only those shippers with addresses in the specified range are processed. Leave these fields blank to process all shippers, regardless of their ship-to address.

Unconfirming Shippers

Some countries such as Italy and Brazil require that confirmed shipment documents can also be unconfirmed.

Use Shipper Unconfirm (7.9.21) to reverse most actions performed by the system at confirmation, returning the shipment to its pre-confirmed state and allowing it to be subsequently modified, canceled, reprinted, or re-confirmed.

In order to unconfirm a shipment, the following criteria must be met:

- The shipment must have been confirmed.
- Selection of the shipper must be permitted by both site security and inventory movement security.
- The effective date must be in a valid open fiscal period for all entities, with inventory affected by the confirmed shipper.
- Inventory issue sites and locations must still exist.

If you try to unconfirm a shipment that does not meet these requirements, the system displays an error.

When you unconfirm a shipper, the system:

- Reverses the movement of inventory out of the ship-from site/location/lot-serial for each shipped line and container.
- Reverses any automatic transfers made between the inventory site of each line item and container, and the ship-from site of the shipper.
- Creates IC and SO GL transactions, reversing the GL transactions created at the original confirmation.
- Creates intercompany transactions, as necessary.
- Reverses modifications to sales order fields updated at confirmation, including line item quantities, calculated freight charges included in the price, and schedule details.
- Updates Material Requirements Plan (MRP) to reflect items returned to inventory.
- Creates reversing entries to Global Tax Management history.

Important Some actions performed during or after confirmation are not reversible. Read the following list carefully before using Shipper Unconfirm.

Shipper Unconfirm does not perform the following:

- Fully populate all fields of re-created location and lot/serial records. If such information is required (for example, if the unconfirmed shipper is not intended to be re-confirmed), you must enter the information manually.
- Fully reverse changes to GL average costs for line items. After the original confirmation, average costs could have been changed and recorded in various other transactions that are not reversible (for example, if other receipts or issues were made in that time period).
- Reverse trailer amounts entered or modified during or following the original confirmation.
- Reverse the issue of any invoice numbers assigned during or following the original confirmation.

Fig. 6.51
Shipper Unconfirm (7.9.21)

Ship-From. Enter the code for the address from which the shipment was issued. The address name appears next to the code. This field is used in conjunction with the shipper number to identify the shipper you want to unconfirm.

Pre-Shipper/Shipper. Choose either Pre-Shipper or Shipper in this field.

Number. Enter the pre-shipper/shipper number for the shipment you want to unconfirm. This field is used in conjunction with the ship-from address code. You can only select sales order shippers. The system determines the source of demand for a shipper by checking the transaction type of the assigned inventory movement code.

Ship-To/Dock. Displays the code for the address where the shipment is to be delivered.

Ship Date. Displays the ship date of the shipper specified during confirmation.

Effective Date. Displays the effective date of the shipper specified during confirmation.

Post Invoice. Enter the same value (Yes or No) entered in this field in Pre-Shipper/Shipper Confirm. If you have not posted invoices since confirmation, then the effect of unconfirm is to net out the original confirmation, since invoice information is cumulative until posting. However, if you have posted invoices during or since confirmation, then the effect of the unconfirm is part of the next invoicing.

Consolidate Invoice. The effect of this field is identical to that of the corresponding field in Pre-Shipper/Shipper Confirm.

Bills of Lading

Shipper documents are used as the basis for bills of lading. This can be useful for consolidating shipments. A bill of lading shows a detailed breakdown of a shipper's content. A master bill of lading combines two or more individual bills of lading. Use the options on the Bills of Lading Menu shown in Table 6.4 to create and print bills of lading.

Table 6.4
Bills of Lading Menu (7.9.12)

Menu No.	Menu Label	Program
7.9.12.1	Bill of Lading Print	rcrp12.p
7.9.12.2	Master Bill of Lading Maintenance	rcmbmt.p
7.9.12.3	Master Bill of Lading Inquiry	rcmbiq.p
7.9.12.4	Master Bill of Lading Print	rcmbrp.p
7.9.12.23	Master Bill Delete/Archive	icmbdel.p

Printing Bills of Lading

Use Bill of Lading Print (7.9.12.1) to print a single bill of lading from a shipper document. A bill of lading shows a detailed breakdown of a shipper's content. This breakdown shows the products shipped, the total weight of the product, and the containers used to pack the product.

Fig. 6.52
Bill of Lading Print (7.9.12.1)

Ship-From. Enter the site code where the shipment originates.

Shipper. Enter the shipper number for which you are printing a bill of lading. You can select only sales order shipments for printing bills of lading. The system determines the source of demand for a shipper by checking the transaction type of the inventory movement code.

Creating Master Bills of Lading

Use Master Bill of Lading Maintenance (7.9.12.2) to create a document that combines two or more individual bills of lading. Shipper documents are used as the basis for bills of lading. Master bills of lading are useful for consolidating shipments.

Master bills of lading are identified by the ship-from code, the master bill number, and the ship-to code. The shipping group associated with the from and to addresses displays if one has been defined.

Fig. 6.53
Master Bill of Lading Maintenance (7.9.12.2)

Ship-From. Enter the site code for the site from which the inventory is shipped. This must be an existing site with a valid associated address record.

Master Bill. Enter the master bill of lading code. If blank, the system assigns the next available Master Bill number from Container/Shipper Control.

Ship-To/Dock. Enter the transit ship-to or dock address (typically a distribution center) at which the shippers associated with this master bill of lading are reloaded for transport to the final customers.

Shipping Group. This field displays the shipping group code and description for this combination of Ship-From and Ship-To/Dock addresses. This field appears after you enter the Ship-From and Ship-To/Dock addresses. If no shipping group is available for the specified addresses, this field is blank.

Carrier Detail Frame

Use the Carrier Detail frame to define the carrier and other carrier-related information.

Fig. 6.54
Master Bill of Lading Maintenance (7.9.12.2), Carrier Detail

Carrier. Enter a valid address code of type carrier if this master bill uses a single carrier. Use the Multi field to specify multiple carriers.

Multi. Enter Yes if this master bill requires more than one carrier. The system prompts you for additional carriers. Enter No if this master bill uses a single carrier.

Enter additional carrier data for this shipment: Ship Via, FOB Point, Mode of Transport, Carrier Shipment Reference, and Vehicle ID appear on various printed documents. For reference, you also can enter shipment and arrival dates and times.

Document Format. Enter a valid document format of a type applicable to shippers. Defaults from the shipping group if one is specified. If blank, the document cannot be printed.

Language. Enter the language code for the master bill. You can print all master bills of a particular language by specifying the language code in the print selection.

Comments. Specify if comments are entered regarding this master bill of lading and whether these comments should be printed. If Yes, the next screen prompts you to review and enter comment information. If No, the comment screen does not display.

Adding Multiple Carriers

If multiple carriers have been specified in the Multi field of the Carrier Detail frame, the Carriers frame displays for listing the carriers. This is exactly the same frame that displays in Pre-Shipper/Shipper Workbench.

See Figure 6.43 on page 140.

Select Option Frame

The Select Option frame lets you indicate how you want to add shippers to the master bill:

- 1: Single. You select shippers one at a time using the Master Bill of Lading Detail frame.
- 2: Multi. The Shipper Multi-Selection frame displays. Enter selection criteria to display a list of shippers. You can select or deselect shippers as needed. When you click Next, selected shippers are added to the master bill of lading. They display in the Master Bill of Lading Detail frame.

Master Bill of Lading Detail Frame

The Master Bill of Lading Maintenance Detail frame appears after completing the Carriers frame. It lists bills of lading that have been added to this master bill.

Fig. 6.55

Master Bill of Lading Maintenance (7.9.12.2), Details

To add a shipper, use the Add command. The Add Shipper pop-up appears. Choose a Ship-From code and a Shipper number and press Enter. The shipper is added to the master bill.

Deleting Master Bills of Lading

To delete a bill of lading from the master bill, select the bill you want to delete, and use the Delete command. You are prompted to confirm the deletion. Type Yes, and press Enter.

You can only delete a master bill if NRM permits the discard of the assigned sequence number. If NRM does not permit the discard, you cannot delete the master bill, but you can remove shippers from it as needed.

Printing Master Bills of Lading

When you have finished adding shippers to the master bill, click Back to exit the shipper list. If the document format is not blank, the Print Master Bill frame appears.

Printing Master Bills of Lading

If a master bill has multiple carriers assigned to it, addresses for all the carriers associated with the master bill print in the shipper body following all the shipper details.

- 1 Choose Master Bill of Lading Print (7.9.12.4).

Fig. 6.56

Master Bill of Lading Print (7.9.12.4)

- 2 Enter a range of ship-from site codes, master bill numbers, ship-to site codes, document formats, language codes, and carrier IDs to select the master bills you want to print.

Validating Shippers

After you set up shipper validation, you follow the normal shipper processing flow. Figure 6.57 shows the shipper processing steps with an emphasis on shipper validation enhancements and where in the shipping process they apply. If you use ASNs and EDI, ASN export software functions as normal, and shipper validation occurs through EDI and other gateways. Because ASN export is not impacted by shipper validation features, this step is omitted in the figures.

The system presents the fields you created during the shipper process when you specified to display them. Warnings and other messages display if you defined messages as part of a rule.

The system also validates negative shippers that result when you return orders or reprocess an already confirmed shipper that has errors.

If you receive shipper validation errors while processing a shipper, the system logs validation error details for all errors that you do not fix in the shipper screens. You can run the Shipper Validation Error Report to view the error details. When you cancel a shipper, the system marks all validation errors related to the shipper as closed.

Once users complete the shipper creation and confirmation, the shipper should be a valid shipper.

See “Setting Up Shipper Validation” on page 113.

In addition, shipper validation reports display shipper errors, rules, and validation profiles as well as simulate and provide audit trails for shipper validations.

See “Shipper Validation Reports” on page 176.

Fig. 6.57
Shipper Flow with User-Defined Validations

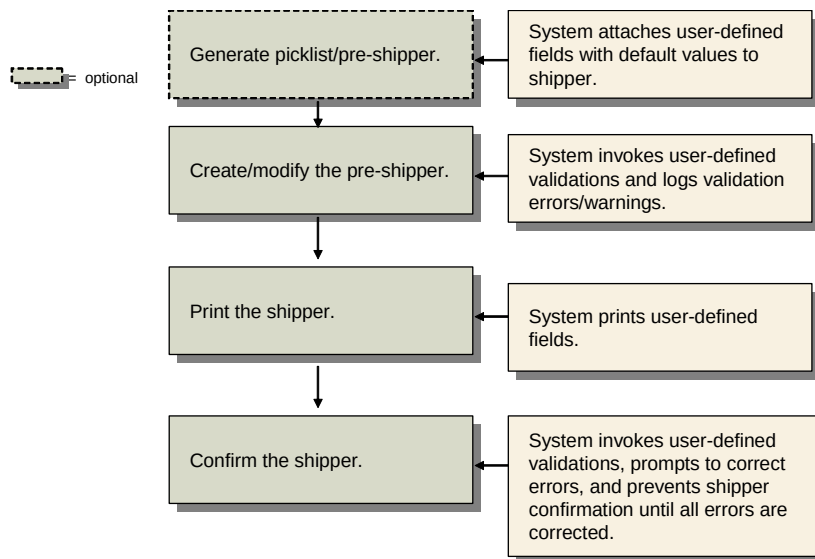


Table 6.5 shows you the system field validation processing for various pre-shipper/shipper programs.

Table 6.5
Shipper Program Validations

Menu	Program	Description
7.9.2	Pre-Shipper/ Shipper Workbench	The system validates system fields in the following: • Second header frame • Multi Carrier frame • Shipper Print frame The User Field frame can display in the workbench; see Figure 6.58. The Data Correction frame can display to correct user field data. When a pre-shipper is converted to a shipper, the system validates all shipper data using the validations you set up in Rule Definition Maintenance. The system records validation errors for the shipper. If you convert a pre-shipper to a shipper, the system maintains the error log for the shipper, not the pre-shipper. If you cancel the shipper, the system deletes the error log for the cancelled shipper.
7.9.4	Pre-Shipper/ Shipper Print	When you convert a pre-shipper to a shipper, the system validates fields you specified to be validated for the new shipper and logs errors.
7.9.5	Pre-Shipper/ Shipper Confirm	User and system fields are validated in the second frame. The User Field frame can display while confirming the shipper; see Figure 6.58. The Data Correction frame can display to correct user field data. If a shipper has validation errors, you cannot confirm the shipper; if the shipper has warnings, you can confirm the shipper. At confirmation, the system validates user fields and system fields stored in the database that are enabled for validation. Note: You can manually validate screen variable fields—fields not stored in the database—when creating a shipper; however, during confirmation, the system does not validate screen variable fields. When you convert a pre-shipper to a shipper, the system runs shipper validations again.
7.9.7	Pre-Shipper/ Shipper Auto Confirm	The system runs the final confirm validation against the shipper by re-validating all fields set for validation at shipper create and pre-shipper/shipper confirm. If errors occur, the confirm does not occur. Pre-Shipper Auto confirm displays a report that indicates which shippers failed confirmation due to validation errors. The system validates again when you convert pre-shipper to shipper.
7.9.8	SO Shipper Maintenance and other non-workbench shipper-creation programs	Only shippers are modified in this program. User Field pop-up window can display in frames; see Figure 6.58. Also, Data correction frame displays to correct user field. The system logs errors in the database.

Menu	Program	Description (continued)
7.9.10	Manual Shipper Validation	This program runs validations for the shipper, records errors in the database, and displays validation failure or success. See “Using Manual Shipper Validation” on page 158.
7.9.20	Undo Shipper Number Assignment	If the user performs an undo on the shipper number assignment, the system validates fields you specified to be validated for the restored pre-shipper. The system deletes the error log for the cancelled shipper.
7.9.21	Unconfirm Shipper	The system does not validate fields during processing.
7.9.22	Shipper Gateway	The system validates shippers loaded into the system using this gateway. The system logs errors in the database, but still creates the shipper. When loading a shipper via the gateway, the system validates any fields set to be validated at shipper create. The system prints validation errors on the gateway output report.
7.9.23	Shipper Delete /Archive	The system deletes and archives the error log associated with a shipper.
	Trade Sales and EMT Shippers	The system generates shippers even when validation errors occur during trade sales or Enterprise Material Transfer (EMT) processing. The system prevents shipper confirmation when validation errors occur during shipper confirmation. Shipper confirmation validation errors do not cause trade sales/EMT to fail or return to a processing state that is prior to shipper confirm.

Entering User Field Data and Correcting Data

The User Fields frame that displays in shipping programs prompts the user for entry as defined in Rule Definition Maintenance (7.9.11.1). If you defined default values for user fields, they display in this frame.

Depending on the specific definitions, users can enter, modify, or delete a value from this frame as needed. This frame can appear multiple times while you are entering shipper information.

Fig. 6.58
User Fields Frame

Field. This field is display only and shows the user field label for this shipper. The label prints on the shipper next to the value entered.

Value. Enter a value for this user field. Your entry is validated based on settings in Rule Definition Maintenance (7.9.11.1). User field values print on the shipper.

The Data Correction Frame displays in shipping programs near the end of shipper processing. The system prompts you to correct errors and warnings in an attempt to validate the shipper. If you specify Yes, the Data Correction frame displays. You enter a correct value for a field with a validation error in the Current Value field. The Data Correction frame can also display the container ID and container item if you use containers. It can also display the order, line, and item number. This helps you make corrections when you are shipping multiple items in a container with the shipper.

Validation Exclusions

There is no shipping validation during the following:

- SO shipments through Sales Order Shipments (7.9.15)
- DO shipments, intersite transfers, or any shipment that is not a sales order shipment
- Invoice-related frames within the system's pre-shipper/shipper confirmation programs
- Shipments created with the optional QAD Warehousing module and Radio Frequency (RF) device that are used with QAD Warehousing software

You cannot correct validation errors in Picklist/Pre-Shipper - Automatic (7.9.1) and you cannot confirm a shipper with errors. You must correct validation errors in Pre-Shipper/Shipper Workbench (7.9.2) or Manual Shipper Validation (7.9.10).

Using Manual Shipper Validation

You can use Manual Shipper Validation (7.9.10) to confirm that a newly created shipper's content and structure are valid. Any shipper can be verified. Shipper validation is executed automatically at the end of Shipper Gateway and Picklist/Pre-Shipper-Automatic.

The validation process no longer uses external execution files to validate shippers. Once you run the validation, the program reports on the failure or success of the shipper validation. The system displays the data correction frame to correct field values in Manual Shipper Validation.

You can also run Shipper Validation Error Report (7.9.11.15) for more information on the shipper errors.

Manual Shipper Validation and Configured Message Maintenance

The system looks at two fields in Rule Definition Maintenance (7.9.11.1) to obtain the execution file and the validation that work with Manual Shipper Validation (7.9.10):

- Validation Program field in the Validation Detail frame for execution file names
- Validation Level field in the Validation Location Frame for the validation level

Also, the Message Sequence and Execution File fields no longer display in Config Msg Verif Report (36.4.10).

Centralized Management of Validation Data

You can use programs in the Shipper Validation Menu (7.9.11) that provide centralized management of validation rules:

- Export Rules (7.9.11.18)
- Export Profiles (7.9.11.19)
- Import Validation Data (7.9.11.20)
- Shipper Validation Control (7.9.11.24)

A single system administrator can export rule or profile data from a central domain/database to various domains/databases within the network.

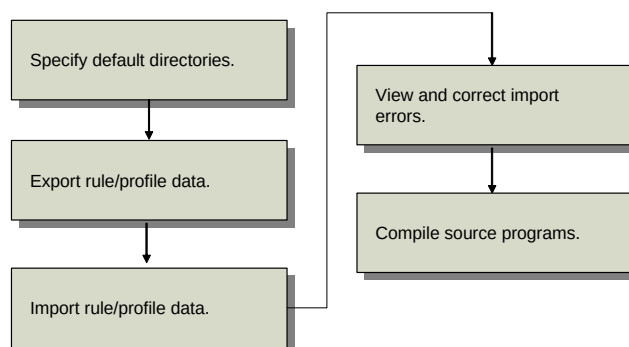
Target system database administrators can optionally and selectively import the rule data to their domain/database. This centralized management lets administrators quickly distribute and implement shipper processing validation setup and update data from a single point. They can also synchronize the validation data that a central domain/database uses with all network domain/databases.

Figure 6.59 depicts the basic steps involved when exporting and importing shipper validation data from a central domain/database. Once rule and profile data is imported, you can choose to have the system automatically move or copy successfully imported files from the import directory to the archive directory.

To implement centralized management of rules, ensure that:

- Your system is running Progress OE10.
- You have rules and profiles defined.

Fig. 6.59
Export and Import Process



Specifying Default Directories

Use Shipper Validation Control (7.9.11.24) to set default directories where the system stores files for exporting, importing, archiving, and to hold custom Progress source programs for compilation.

You can specify an unlimited number of export directories in the Export Directories frame. You can also specify whether the system automatically deletes import files after archiving them.

Fig. 6.60
Shipper Validation Control (7.9.11.24)

Shipper Validation Control

Go To Actions Copy Print Preview

Print

Allow Printing With Errors: ☒

Import

Delete Import Files After Archiving: ☐

Default Import Directory:

Default Source Directory:

Default Archive Directory:

Export Directories

./

Export File Directory: ./

Specify an unlimited number of export directories.

Allow Printing with Errors. Indicate whether you can print pre-shippers or shippers that contain shipper validation errors.

No: You cannot print pre-shippers or shippers that contain errors.

Yes (the default): You can print pre-shippers and shippers that contain errors in:

- Pre-Shipper/Shipper Workbench (7.9.2)
- Pre-Shipper/Shipper Print (7.9.4)
- Sales Order Shipper Maintenance (7.9.8)
- Sales Order Shipper Print (7.9.9)

Delete Import Files after Archiving. Indicate whether the system automatically deletes files once you import the files and archive them.

Yes: The system automatically deletes files from the import directory once it copies them to the archive directory.

No: The system does not automatically delete files after archiving them.

Default Import Directory. Specify the directory that holds data for rules and profiles for import. This field defaults to the Import File Directory field in Import Validation Data.

Default Source Code Directory. Specify the directory that holds custom Progress source files associated with field validation definitions. If any exist in the central database, the system exports them along with rule and profile data. When importing, the system stores the custom source programs in the directory you specify here for later compilation. This field defaults to the Source Code Directory field in Import Validation Data.

Default Archive Directory. Specify the directory where the system places files that have been successfully imported. This field defaults to the Archive Directory field in Import Validation Data (7.9.11.20).

Export File Directory. Specify an unlimited number of directories that hold the export file for exporting to target domains/databases. Once you enter a directory, it displays in the Export Directories frame.

When you specify multiple directories, the system outputs the list of directories once you export.

This field defaults to the Export File Directory field in Export Rules (7.9.11.18) and Export Profiles (7.9.11.19).

Exporting Rules

Use Export Rules (7.9.11.18) to export rule records and all associated data needed to re-create the rule in another domain/database.

You can specify a rule category to select all rules and associated data records for that category and an export file name, then run the export. Or, you can specify an individual rule by rule ID and an export file name.

To specify a range of rules, use the Last Modified Date fields.

You can select directories to export from a drop down list by setting Select from List of Directories to Yes, or you can specify a single directory in Export File Directory. To save time, you can set Pre-Select All to Yes to select all export directories.

The system exports rule data and any custom Progress source code programs to the directories you specify in the Export Directory field.

The system reports Rule ID and other data that are being exported to the output format you specify in the Output field.

Fig. 6.61
Export Rules (7.9.11.18)

Category. Specify a rule category to export that you created in Rule Definition Maintenance (7.9.11.1). The system exports all rules and associated data for that category. If you enter a category, you cannot enter a rule ID in the ID field.

ID. Specify a rule ID to export that you created in Rule Definition Maintenance. If you enter an ID, you cannot enter a rule category in the Category field.

Last Modified Date From/To. Specify a range of dates for which you last modified rules. The system exports all modified rules within the date range.

Export File Name. Specify a file name for the exported rule data. If a file name already exists in the export directory you specify in Export File Directory, the system prompts you to overwrite the file when you export.

Select from List of Directories. Indicate whether the system displays a drop-down list of export directories from which to select one or more export directories.

No: Do not display a list of export directories.

Yes: Display a list of directories to select one or more export directories. The drop-down list defaults from the directories specified in the Export File Directory field in Shipper Validation Control (7.9.11.24). If you set Pre-Select All to Yes, the list displays with an asterisk next to all pre-selected directories. If Yes, you cannot enter an export directory in Export File Directory.

Pre-Select All. Indicate whether all export directories and data are selected for export.

No: Do not pre-select all export directories and data.

Yes: All directories are pre-selected for export. If you set Select from List of Directories to Yes, when the system displays a drop-down list, all pre-selected directories are marked with an asterisk (*).

Export File Directory. Specify a directory to hold the exported rule data. This field defaults from the Default Export Directory field in Shipper Validation Control. If the directory does not exist, the system prompts you to create the directory when you run the export. If Select from List of Directories is Yes, you cannot enter an export file directory.

Along with the rule data you specified in Export Rules, master data, and the Progress source code files associated with field validation definitions, the system also exports the following data that you set up for the rule in Rule Definition Maintenance (7.9.11.1):

- Field validations
- Prompt/validation location
- Allowed values
- Generalized code
- Custom validation program
- Comment
- User field

Exporting Profiles

Use Export Profiles (7.9.11.19) to export profiles and their associated Rules records to re-create the profiles and rules in another domain/database.

When you create a profile in Source/Destination Rule Link (7.9.11.5), you set up source and destination address combinations and link existing rules to the combinations. When you export profiles, you specify this same source and destination criteria to export.

You can enter individual selection criteria for the profiles to export, specify a filename, then press Go to export. When you do, the system exports profiles, rules, and associated data for your selection.

Or, you can leave the selection criteria blank and specify an export file name to export all data associated with the profiles.

You can select directories to export from a drop down list by setting Select from List of Directories to Yes, or you can specify a single directory in Export File Directory. To save time, you can set Pre-Select All to Yes to select all export directories.

The system reports profile and other data that are being exported to the output format you specify in the Output field.

When target database administrators import validation data, the import process uses the selection criteria information to delete profiles from the target database that do not exist in the data being exported from the central database.

Note To import profiles, you must set Allow Import to Yes in Source/Destination Rule Link (7.9.11.5).

Fig. 6.62
Export Profiles (7.9.11.19)

The selection criteria fields are the same as those in Source/Destination Rule Link (7.9.11.5). Refer to the section that describes that program for field descriptions. The remaining fields in the program include the following:

Export File Name. Specify a file name for the exported profile data. If a file name already exists in the export directory you specify in Export File Directory, the system prompts you to overwrite the file when you export.

Select from List of Directories. Indicate whether the system displays a drop-down list of directories from which to select the export directory.

No: Do not display a list of directories.

Yes: Display a list of directories from which to select the export directories. The drop-down list defaults from the directories specified in the Export File Directory field in Shipper Validation Control (7.9.11.24). If you set Pre-Select All to Yes, the list displays with an asterisk next to all pre-selected directories.

Pre-Select All. Indicate whether all export directories are selected for export.

No: Do not pre-select all export directories.

Yes: All files are pre-selected for export. If you set Select from List of Directories to Yes, when the system displays a drop-down list, all pre-selected directories are marked with an asterisk (*).

Export File Directory. Specify a directory to hold the export file. This field defaults from the Default Export Directory field in Shipper Validation Control. If the directory does not exist, the system prompts you to create the directory when you run the export.

The system uses the export file data when importing to:

- Determine which profiles in the target database to delete that were removed from the central database
- Add or modify profiles, rules, and user fields

Importing Validation Data

Once rule and profile data is exported, you can selectively import the files.

Note To import of existing profiles and rules, you must set the Allow Import field in the first frame of Rule Definition Maintenance (7.9.1) to Yes; see Figure 6.26. If set to No, the import process does not modify or delete records. To import profile data, you must set the Allow Import field to Yes in Source/Destination Rule Link; see Figure 6.31. The default for the Allow Import field is Yes.

Begin the import process by reviewing the export output report. Administrators can optionally output the export information that displays when they export rules and profiles to a file that you can review before you import.

Locate the import, archive, and Progress source code directories in Shipper Validation Control. You have the option to overwrite the directory settings when you import in Import Validation Data (7.9.11.20).

You should also note the name of the import file that is located in the import directory. The import file has an .xml extension and is located in the import directory. If the file is in an import directory set by a central database administrator and you plan to specify a different import directory, you must move the import file to that directory.

When you are ready to import files, use Import Validation Data (7.9.11.20).

Important The import overwrites existing rule and profile data. This includes the existing links between profiles and rules. The system also deletes profiles from the target database that do not exist in the data being exported from the central database based on the selection criteria. For example, if the selection criteria are for one auto manufacturer, the system deletes any additional profiles that exist for that manufacturer on the target that are not on the import file.

You can select files to import by setting the Select from List of Files to Yes. The system displays a drop-down list of files that you can scroll through to select files to import. Press Enter to select the file. The system marks the file with an asterisk. If you also set Pre-Select All to Yes, all files in the drop-down list are marked with an asterisk. You can deselect files in the list by pressing Enter.

You can specify that the import overwrite only rules by setting Import Rules Only to Yes in Import Validation. You can also specify the import directory where files are ready to be imported and the import file name.

You can simulate the import by setting Update to No. When you do, the system displays the files to load and any error messages. When you are ready to import, set Update to Yes. The system displays the files that successfully imported, the number that were in error, and other import information in the output form you specify in Output.

Fig. 6.63
Import Validation Data (7.9.11.20)

Import File Directory. Specify the import directory where the system finds the import files. This field defaults from the Default Import Directory field in Shipper Validation Control (7.9.11.24). If the directory does not exist, the system prompts you to create the directory when you run the import.

Select from List of Files. Indicate whether the system displays a drop-down list of files for you to select files to import.

No: The system does not display a list of files to select files for import.

Yes: The system displays a drop-down list of files for selecting files to import. If you set Pre-Select All to Yes, too, the system pre-selects all files by displaying an asterisk (*) next to the file.

Pre-Select All. Indicate whether all files in the directory entered in the Import File Directory field are pre-selected for import.

No: All files in the specified directory are not pre-selected for import. Files that display in the Import Files field are not checked.

Yes: All files are pre-selected for import. Files that display if you set Select from List of Files to Yes are pre-selected with an asterisk (*).

Import Files. Specify the name of the import file that holds validation data. Import files have an .xml extension. If the file is in a directory other than the directory you specify in the Import File Directory field in Import Validation Data, move the file to the directory you specify.

If you select one or more files, the system processes the import files in the order in which you selected them.

Archive Directory. Specify the archive directory where the system places files that have been successfully imported. This field defaults from the Default Archive Directory field in Shipper Validation Control.

Archived files have a date and timestamp in their suffix in the format: *filename.yymmdd-hhmmss.xml*

For example, allrules.070801-073010.xml was archived on August 1, 2007, at ten seconds past 7:30.

Source Code Directory. Specify the source code directory where the system places exported Progress source code programs associated with field definitions. You must compile these programs after importing them.

This field defaults from the Default Source Code Directory field in Shipper Validation Control.

Import Rules Only. Indicate whether to import rules only.

No: The system imports data for profiles, links, and rules.

Yes: The system imports only rule data.

Delete Import Files after Archiving. Indicate whether the system automatically deletes files once you import the files and archive them.

Yes: The system automatically deletes files from the import directory once it copies them to the archive directory.

No: The system does not automatically delete files after archiving them. If you set Copy to Archive Directory to Yes in Import Validation Data, the import files exist in both the Import directory and the archive directory.

Update. Indicate whether the system imports the data you selected.

No: The system does not import data but does display the data to be imported.

Yes: The system imports data, overwriting either rule or profile data or both; creates an import report; it deletes any selected profile records from the target database that are not included in the set of profile records being imported based on the selection criteria.

The system provides fields in Rule Definition Maintenance and Source/Destination Rule Link that indicate:

- When the rule or profile data was last modified and by which user
- When the rule or profile data was last imported and by which user
- The name of file that the system used as the import source

Correcting Import Errors

When you import data using Import Validation Data (7.9.11.20), the system displays a report of the imported data in the program, along with any import errors.

Import errors can occur when the system cannot find records, such as customer/ship-to, dock, or address records that exist in the central database but not in the target database. You can correct these errors by creating the records in the target database.

If the system displays import error messages that indicate a record was not available for import update, ensure the Allow Import field is Yes in Rule Definition Maintenance (7.9.11.1) to import rules and Source/Destination Rule Link (7.9.11.5). After you make these adjustments, run the import again using Import Validation Data.

Compiling Custom Source Programs

In Rule Definition Maintenance (7.9.11.1), you can specify a custom Progress source program as a validation program. When you export rules and profiles, the custom programs associated with field validations are exported, too. You must compile the programs after you import them.

Administrators at the central database specify the source code directory in Shipper Validation

Control (7.9.11.24); however, you can specify another directory when you run the import with Import Validation Data (7.9.11.20). During the import, the system copies the custom source code programs to the directory you specify.

Once you compile the custom source code programs, you should put them into the directory where the compiled code is stored.

Note The compiled programs must reside in the database PROPATH to be seen by the QAD ERP application.

Synchronizing Data

To ensure that validation data is synchronized in target databases with the central database, the system deletes profiles from the target database that do not exist in exported central database profile data. The system deletes profiles based on the profile export selection criteria.

You can review which profiles the system deletes before import by reviewing the export selection criteria for profiles that the system reports when you run an import simulation in Import Validation Data.

You can also review the deleted profile information that displays when you run the actual import.

Central database administrators can also set Display Unreferenced Rules Only to Yes in Rules Report (7.9.11.14) to aid in rule clean up. Central database administrators should set these fields and run the report before exporting profile and rule data to be imported by target databases.

Displaying Centralized Validation Data

You can view exported rule data when you run Export Rules (7.9.11.18) and exported profile data when you run Export Profiles (7.9.11.19). The system reports imported rules, profiles, and selection criteria when you run Import Validation Data (7.9.11.20).

Creating Shippers in Other Functions

Many countries require that formal shipping documents accompany any movement of goods, even when goods are merely transferred, not sold. Table 6.6 lists other programs where you can record shipping information and generate shipping documents for issue transactions.

Table 6.6
Programs Generating Shippers

Menu Number	Description	Program Name
3.4.1	Transfer—Single Item	iclotr02.p
3.4.2	Transfer—Multi Item	iclotr01.p
3.4.3	Transfer With Lot/Serial Change	iclotr03.p
3.4.4	Batchload Transfer with Lot/Serial Change	iclotr04.p
3.7	Issues—Unplanned	icunis.p
3.8	Issues—Return to Supplier	icrvs.p
5.13.7	Purchase Order Returns	porvis.p
7.1.15	Sales Order Shipments	sosois.p
11.11.1	Material Order Maintenance	fseomt.p

Menu Number	Description	Program Name
11.11.6	Material Order Shipments	fseops.p
11.1.1.13	Call Activity Recording	fscarmt.p
11.7.1.1	RMA Maintenance	fsrmamt.p
11.7.1.16	RMA Shipments	fsrmash.p
11.7.3.1	RTS Maintenance	fsrtvmt.p
12.17.21	Distribution Order Processing	dsdomt02.p
12.17.22	Distribution Order Shipments	dsdois.p
16.10	Work Order Component Issue	wowois.p
18.22.3.6	Repetitive Picklist Transfer	repkis.p
18.22.5.5	Sub Shipper Maintenance	reshmt.p
18.22.13	Backflush Transaction	rebkfl.p
18.22.17	Rework Transaction	rework.p

You may also need to create shipper documents when moving inventory between two locations at the same site. This is possible in the functions listed in Table 6.7 when:

- Addresses have been predefined for the two locations in Location Maintenance (1.1.18).
- A valid shipping group with the locations defined as the source and destination addresses is set up, with an inventory movement code representing the ISS-TR transaction.

Table 6.7
Programs Generating Shippers for Locations

Menu Number	Description	Program Name
3.4.1	Transfer–Single Item	iclotr02.p
3.4.2	Transfer–Multi Item	iclotr01.p
3.4.3	Transfer With Lot/Serial Change	iclotr03.p
3.4.4	Batchload Transfer with Lot/Serial Change	iclotr04.p
11.11.1	Material Order Maintenance	fseomt.p
11.11.6	Material Order Shipments	fseops.p
18.22.3.6	Repetitive Picklist Transfer	repkis.p

Inventory Control Programs

Shipping documents can be created from the following inventory control programs:

- Transfer–Single Item (3.4.1) is used to move item inventory from one site and location to another. Transfers can occur within a facility, changing the location or lot reference, or between facilities, changing the site. This program creates ISS-TR transactions.
You can also use Transfer–Single Item to create a shipper for a single memo item, if this is required.
- Transfer–Multi Item (3.4.2) is used to move inventory of multiple items from one site and location to another. Transfers can occur within a facility, changing the location or lot reference, or between facilities, changing the site. This program creates ISS-TR transactions.
- Transfer with Lot/Serial Change (3.4.3) is like Transfer–Single Item, except it lets you change the lot serial and lot reference numbers associated with an item, in addition to changing the site and location. This program creates ISS-TR transactions.

- Issues–Unplanned (3.7) lets you reduce inventory quantity for an item at a designated site and location. Issues not involving any open sales, purchase, manufacturing, or quality order are unplanned issues. This program creates ISS-UNP transactions.
- Issue–Return to Supplier (3.8) also supports shipping functionality. This program creates ISS-RV transactions.

This section illustrates Transfer–Single Item, but creating shipping documents from any of these programs is just the same with the following exceptions:

- You can create shippers for memo items only from Transfer–Single Item. In Transfer–Single Item when a memo item is specified, the system displays a warning. If you proceed, you are prompted to enter the item information required to generate a shipper, such as weight and volume.
- After you enter transaction information and click Next, the system prompts for an inventory movement code in Issues–Unplanned (3.7) and Receipts–Unplanned (3.9). It uses this code to supply default accounts for the transaction.

In all transfer programs that support shippers, the system:

- Checks if the From-Site and location and To-Site and location of the transfer exist in a valid shipping group.
- If so, checks whether the shipping group includes valid inventory movement codes for the appropriate transaction type.

If these conditions are not true, the transaction is completed as usual. If a shipping group exists, you can create a shipper for the transferred item by entering information in a series of frames, described next.

Shipping Information Frame

When a valid shipping group exists for the transfer, the Shipping Information frame displays after you click Next to transfer the items.

Fig. 6.64
Transfer–Single Item, Shipping Information Frame

Shipping Information	
Ship-From ID: 4400	Box Shipping
Number:	
Ship-To/Dock: 5500	Flat Land Receiving
	3D Plain Street
Shipping Group: MFG-DIST	Shipping Group1
Inventory Movement Code: ISS-TR	Inv Transfers

The Shipping Information frame contains the following fields:

Ship-From ID. Displays the source site of the transfer, with the site description displayed beside it. This field cannot be edited.

Number. Enter the identifying number of a new or existing shipper.

- If you specify an existing shipper number, the system adds the transfer item as a new line item.
- If you enter a new shipper number, the system validates it using the NRM sequence, as determined by the shipping group and inventory movement code. If the number is valid, the system creates a new shipper.
- Leave the field blank for internally generated numbers. The system attempts to generate a new shipper number using the NRM sequence, as determined by the shipping group and inventory movement code.

The system displays a warning, but lets you proceed when you:

- Select an existing shipper that has already printed.
- Select an existing shipper that prohibits consolidation.
- Attempt to create a new shipper and either the Ship-From or Ship-To address requires consolidation, and another unprinted shipper exists with the same type, Ship-From, Ship-To, and effective date. You can then either consolidate with the existing shipper or continue creating a new shipper.

Ship-To/Dock. This field displays the destination site of the transfer. The site address name and address line 1 display next to the site. This field cannot be edited.

Shipping Group. This field displays the shipping group code and description for this combination of Ship-From and Ship-To addresses. This field cannot be edited.

Inventory Movement Code. Enter the inventory movement code for the shipment. This field defaults to the value assigned for the transaction type in the shipping group. You must have access to both the site and inventory movement code.

The description displays next to the code. If you select an existing shipper, the system overwrites any value entered in this field with the value from the selected shipper. You cannot edit an inventory movement code on an existing record.

Note If you click Back while on this shipment header frame, the system terminates the shipper creation. The item is transferred as usual, without a shipper.

When you accept the input frame, the system selects an existing shipper or creates a new shipper, depending on the value entered in the Number field. Another frame displays that lets you enter additional information. The system records the transfer item as a new line item on the shipper.

Additional Shipment Header Information

When the Shipment Information frame is accepted, the following frame displays.

Fig. 6.65
Transfer—Single Item, Additional Shipment Header Information

With the exception of the Document Format field, all fields function exactly as they do in Pre-Shipper/Shipper Workbench (7.9.2).

Document Format. Enter a valid document format of a type applicable to shippers. If the document format is edited for a shipper marked as having been printed, the system displays a warning message, but lets you continue.

Shippers with blank document formats cannot be printed and do not have available any additional format-specific processing services provided by service encapsulation procedures associated with document formats. Although they are not printable, shippers with blank formats can be maintained, deleted, archived, and otherwise processed as usual.

See “Creating Shippers Manually” on page 133 for details.

Note If you click Back from this frame, the system reverses any modifications made to any field on the frame. If you are editing an existing shipper, the previous field values are restored. If you are creating a new shipper, any modifications made to the default field values are reversed; however, the new shipper itself remains.

After you accept the input frame, the Trailer Information frame displays.

Trailer Information

The Trailer Information fields function as they do in Pre-Shipper/Shipper Workbench, except that you cannot cancel the shipper. You can add trailer comments.

The Status field is set to C, indicating that the shipper is created as confirmed. It cannot be confirmed using Pre-Shipper/Shipper Confirm.

After you accept the Trailer Information frame, if the shipper has an assigned document format, the system prompts you to print a shipping document. If the document format is blank, you cannot print the shipper.

Fig. 6.66
Transfer–Single Item, Trailer Information

Print Shipper Frame

If you choose to print the shipper, the Print Shipper frame displays.

Fig. 6.67
Transfer–Single Item, Print Shipper

Include Shipper Comments. This field determines whether shipper comments display on the printed shipping document. Enter Yes to include the shipper comments; enter No to omit the comments. The default is Yes.

Print Lot/Serial Numbers. Specify whether a complete list of each of the lot/serial and lot reference numbers shipped is to print on the shipping document.

Yes: Each line item shipped is followed by a list of the lot/serial and lot reference numbers shipped.

No: Only the total quantity shipped prints for each line item.

Note If you click Back from this frame, the shipper is not printed. However, you can print or reprint it later using Pre-Shipper/Shipper Print (7.9.4).

Purchase Order Returns

Purchase Order Returns (5.13.7) lets you specify source and destination addresses for the shipper.

Fig. 6.68
Purchase Order Returns (5.13.7)

The Purchase Order Returns header frame contains the following shipper-related fields:

Ship-From. Specify the ship-from site for the PO return. It defaults to the receiving site on the PO; however, you can enter a different site.

Ship-To. Specify the ship-to address for the purchase order return. It defaults to the supplier on the purchase order; however, you can enter a different address.

Note If you leave the Ship-From and Ship-To fields blank, the purchase order return is processed without creating a shipper.

After the PO Returns header frame is accepted, the system:

- Checks if the Ship-From and Ship-To of the PO return exist within a valid shipping group.
- If so, checks whether the shipping group includes a valid inventory movement code for the transaction type ISS-PRV.

If these conditions are not true, the PO return is completed as usual. If a shipping group does exist, you can create a shipper for the PO return by entering information in the same series of frames described for Transfer–Single Item.

See “Shipping Information Frame” on page 169.

Sales Order Shipments

Sales Order Shipment (7.9.15) does not normally generate a shipper document. However there is one case where shippers can be created; this is if you are using correction invoices and the correction results in the issue or return of goods.

See “Creating Correction Sales Orders” on page 42.

To support the creation of shippers:

- A shipping group must be defined for the ship-from and ship-to addresses.
- An inventory movement code with transaction type ISS-COR must be linked to the shipping group.

Distribution Order Shippers

You can use the programs in the Distribution Orders Shipping Menu (12.19) to create, maintain, and report on distribution order pre-shippers, shippers, and containers in the same way that you do for shippers and containers for sales orders. Programs in the Distribution Orders Shipping Menu let you use the system’s shipping features for domestic and global DO order shipments using containers, shippers, and master bills of lading.

See *User Guide: QAD Supply Chain Management*.

Other Functions Supporting Shippers

Table 6.8 details the various shipping groups and associated inventory movement codes that must be set up for other functions that support shippers.

- The Transaction column shows the transaction to be performed by the relevant function.
- When this transaction is performed, the system checks for the existence of the shipping group defined in the Shipping Group column.
- If this is found, the system next checks that this shipping group has been set up with an inventory movement code that represents the transaction shown in the Inventory Movement Code column.

Note Only the primary transaction must be associated with the inventory movement code. For example, a work order component issue between sites involves a transfer (ISS-TR and RCT-TR), and a work order issue (ISS-WO). Only the ISS-WO needs to be associated with the inventory movement code.

Table 6.8
Inventory Movement Codes in Shipping Groups

Call Activity Recording (11.1.1.13)	
Transaction	Any component issue recorded using Call Activity Recording.
Shipping Group	Source address must match the issuing site, and the destination address must match the end user address.
Inventory Movement Code	ISS-WO

Table 6.8 — Inventory Movement Codes in Shipping Groups — (Page 1 of 3)

RMA Maintenance (11.7.1.1)	
Transaction	Any RMA maintenance issues processed within RMA Maintenance.
Shipping Group	Source address must match the issuing site, and the destination address must match the end user address for the particular RMA item involved in the transaction.
Inv Movement Code	ISS-SO
RMA Shipments (11.7.1.16)	
Transaction	Any component issue performed using RMA Shipments.
Shipping Group	Source address must match the issuing site, and the destination address must match the end user address for the particular RMA item involved in the transaction.
Inv Movement Code	ISS-SO
RTS Shipments(11.7.3.16)	
Transaction	Any processing of supplier returns using RTS Shipments.
Shipping Group	If the Inv Issue field is Yes, the system checks for a shipping group with a source address the same as the issuing site, and a destination address that is the same as the supplier address. If the Inv Issue field is No, the system checks for a shipping group with a source address that is either the same as the issuing site or the address code for the supplier location and a destination address that is either the same as the supplier address or the address code for the location at the supplier site.
Inv Movement Code	RCT-PO
Material Order Maintenance (11.11.1)	
Transaction	Any component issue recorded in Material Order Maintenance when the Ship Immed field in Engineer Orders Control is Yes.
Shipping Group	Source address must either match the issuing site or location. Destination address must match the engineer site or engineer location.
Inv Movement Code	ISS-TR
Material Order Shipments (11.11.6)	
Transaction	Any component issue performed using Material Order Shipments.
Shipping Group	Source address must either match the issuing site or location. Destination address must match the engineer site or location.
Inv Movement Code	ISS-TR
Work Order Component Issue (16.10)	
Transaction	A work order component issue where the site issuing the component is not the same as the work order site.
Shipping Group	Source address must match the issuing site, and the destination address must match the work order site.
Inv Movement Code	ISS-WO

Table 6.8 — Inventory Movement Codes in Shipping Groups — (Page 2 of 3)

Repetitive Labor Transaction (18.14)	
Transaction	A backflush where the site issuing the component is not the same as the order site.
Shipping Group	Source address must match the issuing site, and the destination address must match the order site.
Inv Movement Code	ISS-WO
Backflush Transaction (18.22.13)	
Transaction	A backflush where the site issuing the component is not the same as the order site.
Shipping Group	Source address must match the issuing site, and the destination address must match the order site.
Inv Movement Code	ISS-WO
Rework Transaction (18.22.17)	
Transaction	A backflush issue where the site issuing the component is not the same as the order site.
Shipping Group	Source address must match the issuing site, and the destination address must match the order site.
Inv Movement Code	ISS-WO
Repetitive Picklist Transfer (18.22.3.6 and 18.3.6)	
Transaction	A picklist transfer.
Shipping Group	Source address can either match the site code for the issuing site, or it can be the address of the issuing location. Destination address can either match the order site or it can be that of the WIP location.
Inv Movement Code	ISS-TR

Table 6.8 — Inventory Movement Codes in Shipping Groups — (Page 3 of 3)

Receipt Processing

All material receiving functions enable you to specify additional shipment information during receipt entry:

- Receipts–Unplanned (3.9)
- Receipts–Sales Order Return (3.10)
- Receipts–Return to Stock (3.11)
- PO Shipper Receipt (5.5.5.11, 5.13.20)
- Purchase Order Receipts (5.13.1)

The additional fields provided are optional and informational only, and appear in transaction history.

If Shipment Info for Receipts is Yes in Container/Shipper Control, a Shipment Information frame displays for input of data for each receipt. When this field is No, the fields in transaction history are blank.

Viewing Shipper Information

Use the Shipper Report (7.9.16) to review detailed information from shipper documents.

During shipment transactions, shipper numbers are written to inventory transaction history. Correspondingly, the related invoice number is stored in the shipper record. This link is displayed on the Shipper Report.

You can include shippers:

- For which invoices have been generated
- For which invoices have not yet been generated
- That have yet to be printed
- That are still unconfirmed

You can set any of these options or any combination of these with the exception of Unprinted Only. This option cannot be enabled with any other option.

Fig. 6.69
Shipper Report (7.9.16)

Shipper Report: Go To ACTIONS

Ship-From: To:

Ship-To/Dock: To:

Number: To:

Inventory Movement Code: To:

Ship Date: To:

Include Invoiced Shippers: ☒

Include Uninvoiced Shippers: ☒

Unprinted Only: ☐

Confirmed: ☒

Sort Option: 3

1 = Inventory Movement Code
2 = Ship Date
3 = Shipper Number

Output:
Batch ID:

Select shippers to report by range of ship-from address, ship-to/dock address, number, inventory movement code, or ship date. Depending on the sort by option, each report can be sorted by inventory movement code, shipment date, or shipper number.

Shipper Validation Reports

Shipper validation reports display shipper errors, rules, and validation profiles as well as simulate and provide audit trails for shipper validations. The following subsections describe reports included in shipper validation enhancements.

Table 6.9
Shipper Validation Reports

Menu Number	Report	Description
7.9.11.13	Hierarchy Report	Lets you view source/destination profile data and the rules associated with the profiles.
7.9.11.14	Rules Report	Lets you view existing rules and the source/destination profiles that are associated with them. The system displays the rule ID and category, followed by validation fields and optional validation detail, and all profiles that contain the rule ID.
7.9.11.15	Error Report	Lets you view shippers that fail the shipper process. You can view validation errors by shipper or profile.

Hierarchy Report

The Hierarchy Report displays source/destination profile data in a hierarchical manner that is similar to a bill of material structure. The structure consists of levels that show the profiles and the rules and fields that are associated with them as shown in Table 6.10.

The Hierarchy Report only displays field validations at the lowest level if there is a common field validation at two different levels in the hierarchy.

Table 6.10
Profile Hierarchy

Hierarchy Field	Level
Source Country	1 (highest)
Ship-From	2
Destination Country	3
Customer	4
Ship-To	5
Dock	6

The system displays the highest level profile first. The highest level profile is one in which you specify only a source country and leave other profile hierarchy fields blank. The lowest level profile is one in which you specify a Dock field. The system may fill some fields, even if you leave them blank.

Note The global profile that applies to all shippers is a level 1 because the system stores the rules associated with the global profile with a blank source country.

Creating Scanned Shipping Documents

Use Shipper Gateway (7.9.22) to import records scanned by a bar-code reader. The records represent containers, pre-shippers, shippers, or items. The data can come from an ASCII-formatted file or be output from a UNIX process.

Shipper Gateway provides two options for the normal shipment flow from pre-shipper to shipper:

- Verify shipment contents to determine whether they match the pre-shipper or stage list.
- Verify shipment contents and create shippers from the scanned information. In this case, you do not need to use a pre-shipper. Instead, scan in the shipment information and create the shipper from that data. This method can satisfy some customer requirements to create shippers and ASNs electronically, rather than manually.

Each line of an inbound Shipper Gateway document file represents a line on the shipper and correspond to a single `abs_mstr` record. Since a typical shipper (type S) may include containers (type C) and items (type I), the fields required for a particular line vary.

Table 6.11 lists each field in the `abs_mstr` record and indicates whether it applies to shipper, container, item, or receiver lines.

The following rules apply to the document format:

- Separate each record (line) with a hard carriage return.
- Specify a value for each field listed in Table 6.11.
- When a value is not applicable or optional, enter a hyphen. This tells the system to use the default value or blank.
- Surround a field with quotation marks unless it accepts only integer or decimal data.

The following example represents a file that loads shipper (S), container (C), and item (I) records in `abs_mstr`. The system ignores fields containing the hyphen placeholders. In this example, the item is listed on SO11898.

```
"S" - - "crmsite" "1207-3" - - - - "crm1207" - - - - - - - - - - - - - - - -
"C" "crmsite" "crmloc" "crmsite" "1207C-3" "crm1207cnt" - - 1.00 - - - "S1207-3" - "EA"
135.00 "LB" - - 35.00 "LB" - - - - -
"I" "crmsite" "crmloc" "crmsite" - "crm1207sg" - - 10.0 - "SO11898" 1 "C1207C-3" - "EA"
100.00 "LB" - - 100.00 "LB" - - - - -
```

Enter values in the following fields to import scanned information:

Process/File. Enter Process if you want the system to look for an executable program or script, start it as a separate process, and read its standard output. Enter File if you want the system to look for, open, and read an ASCII file. The Process option can be used only with UNIX systems. See Table 6.11 for detailed format requirements of Shipper Gateway documents.

Filename. Enter the name of the file or process to derive data from. If a process, it must exist in your `PROPATH` and be an executable program. If a file, it must be in ASCII format.

Load Multiple Containers. Enter Yes to enable the system to add multiple containers to the shipper during import when the quantity specified for a container line is not equal to 1.

When the field is No, the system adds a single container regardless of the quantity specified.

Verify Only. Enter Yes to verify that the shipment contents match the pre-shipper or stage list. Enter No to verify shipment contents and also create shippers from the scanned information. The system stores the records it reads into the database.

Table 6.11
Format for Shipper Gateway Files

Seq	Field	Applies to Record Type				Description
		C	S	I	R	
1	Type	C	S	I	R	Must be C (Container), S (Shipper), I (Item), or R (Receiver).
2	Site	C	—	I	—	Must be a valid site code.
3	Location	C	—	I	—	Optional. If supplied, must be a valid location at the specified site.
4	Ship-from	C	S	I	R	Must be a valid site code and must be supplied with records that have a Parent ID.
5	ID	C	S	—	R	Must be unique in combination with Ship-From. Do not supply a prefix letter.
6	Item	C	—	I	—	Must be a valid item number.
7	Lot/serial	C	—	I	—	The lot or serial number for the item.
8	Reference	C	—	I	—	The reference number for the item.
9	Quantity	C	—	I	—	The item quantity.
10	Ship-to	—	S	—	R	Must be a valid ship-to address code.
11	Order Number	—	—	I	—	Must be a valid sales order number unless the item is from a receiver. Then, specify a valid purchase order number.
12	Line	—	—	I	—	Must be a valid sales order line number unless the item is from a receiver. Then, specify a valid purchase order line number.
13	Parent ID	C	—	I	—	The parent record ID number, including the S or C prefix.
14	Customer PO	—	—	I	—	The customer's purchase order number.
15	Quantity UM	C	—	I	—	Must be a valid unit of measure code.
16	Gross Weight	C	S	I	R	For type I, enter the item's gross weight. The system derives the tare weight from the difference between the gross and net weights. For type S, R, and C, this field is ignored. The system calculates type S and C gross weights during processing.
17	Weight UM	C	S	I	R	The UM associated with Gross Weight.
18	Volume	C	S	I	R	The volume for the record.

Table 6.11 — Format for Shipper Gateway Files — (Page 1 of 2)

Seq	Field	Applies to Record Type				Description
19	Volume UM	C	S	I	R	The UM associated with Volume.
20	Weight	C	S	I	R	For type I, enter the item's net weight. For type S, R, and C, enter the tare weight. This weight is rolled up during the processing of the shipper lines and containers.
21	Ship Via	—	S	—	R	The carrier to use for the shipper.
22	FOB	—	S	—	R	The FOB point for the shipper.
23	Carrier Reference	—	S	—	R	The ID of the carrier for the shipper.
24	Transportation Mode	—	S	—	R	The method of delivery for the shipper.
25	Vehicle Reference	—	S	—	R	The ID of the vehicle for the shipper.
26	Kanban	C	—	I	—	The Kanban number for the shipper.
27	Customer Job	—	—	I	—	The customer job of the item.
28	Customer Sequence	—	—	I	—	The customer sequence of the item.
29	Customer Dock	—	—	I	—	The customer dock where the part is to be delivered.
30	Customer Linefeed	—	—	I	—	The customer line feed location where the part is to be delivered.
31	Sequence Status	—	—	I	—	The indicator for sequences with special statuses, such as prototype.
32	Customer Ref	C	—	I	—	The customer reference for the item.
33	Model Year	C	—	I	—	The model year of the item.

Table 6.11 — Format for Shipper Gateway Files — (Page 2 of 2)

Creating Custom Shippers

This section describes the steps necessary to create a customized shipper document for outgoing shipments. This procedure can be used for the following programs:

- Pre-Shipper/Shipper Workbench (7.9.2)
- Pre-Shipper/Shipper Print (7.9.4)
- Sales Order Shipper Maintenance (7.9.8)

Note This procedure cannot be used by Sales Order Shipper Print (7.9.9).

This procedure is intended for users with a working knowledge of the QAD environment, record structures, and functionality, as well as programming using Progress Version 8 or later.

Overview of Form Services

Shipping provides the ability to create shippers with customized layouts and/or customized data to comply with statutory requirements or common business practice. The customization can be performed by anyone with the current software and access to a Progress development environment, including third-party developers and end users.

Shipping is designed so that the customization requirements are minimal and localized. To create a new customer shipper, you need to create or modify only one Progress procedure, even though the results of the customization can be visible in a multiple functional area. This prevents customizations from adversely affecting other functionality and minimizes their maintenance costs when later updates are installed.

QAD provides a procedure, `sofmsv01.p`, to print a shipping document in a standard format for any outgoing shipment. The procedure `sofmsv01.p` is fully functional, but is designed to serve also as a model for end-user customization. Customized shipper formats can be added by copying and modifying this standard procedure. Each shipper, whether custom or standard, is supported by a single procedure.

A shipment is associated with a specific print format, either standard or customer, through the use of the shipper's Document Format field, visible when maintaining the shipment. Each document format is associated with a specific printing procedure, such as `sofmsv01.p`, through the use of the document format's Form Code field, visible when maintaining the document format. The two-character form code corresponds to the last two characters of the name of the procedure. The remaining characters of the procedure name are fixed.

Example Any shipment with a document format that uses form code 01 is printed by procedure `sofmsv01.p`, any with a format using form code 02 is printed by `sofmsv02.p`, any with a format using form code *nn* is printed by procedures `sofmsvnn.p`.

Shipping allows a form code to be permanently associated with each shipping transaction, enabling you to print shippers of various formats in a single print run.

Additional Form Services

At a minimum, `sofmsv01.p` and similar procedures facilitates printing a shipper. However, this type of procedure can provide other services also. For example, some local requirements dictate that additional data, which is neither maintained using the standard shipper maintenance programs nor stored in the standard record structure, display on printed shipping documents.

Services for handling the maintenance of such additional data can be included, or *encapsulated*, within the same procedure that handles printing the shipper. Therefore, `sofmsv01.p` and similar procedures are referred to as *service encapsulation procedures*. The `sofmsvnn.p` procedure includes all of the services required to maintain the necessary data and print a shipping document for all shippers with a document format using form code *nn*.

Example Suppose your local jurisdiction requires a permit in order to transport certain goods, and the permit number must display at the top of printed shipping documents. The system provides no facilities for maintaining such a permit number, storing it with the shipper, or printing it on shipping documents.

You can create a custom procedure encapsulating the services that enable you to enter the permit number when maintaining the shipper, print the number on the shipper, archive the number prior to deletion, and delete the additional data with the shipper. The custom procedure can then be associated with a document format through the use of the form code and the document format can be assigned to any shippers within the local jurisdiction.

Each of the services within an encapsulated procedure, including the one that prints the document, is implemented as a separate internal Progress procedure. The encapsulation procedure itself is simply a collection of internal procedures—it does not have its own executable procedure body.

Sample Procedure—sofmsv01.p

The `sofmsv01.p` service encapsulation procedure prints standard shippers. The procedure also serves as a model for end-user customization. It includes internal comments that document the technical aspects of creating a procedure to process and print customized shipping documents.

In addition to the internal documentation and the functioning print service, `sofmsv01.p` also includes sample internal service procedures for all of the services supported by shipping, including gathering, storing, archiving, and deleting additional shipper information.

Because these services are not required for the actual processing of standard shippers, the sample procedures in `sofmsv01.p` are disabled by being enclosed within comments. The procedures are otherwise fully functional and can be enabled by removing the comments.

Creating a Custom Shipper

Use the following steps as a guideline to create a custom shipper, using `sofmsv01.p` as a model:

1 Identify an unused form code.

Every procedure that encapsulates shipper print and other form services must be named `sofmsvnn.p`, where `nn` is a two-character code. Your procedure name must be unique; therefore, choose a form code that is not in use. Use the source code directory to determine which form codes are already in use.

You can use custom shipper print procedures created in earlier versions, named `rcrp13nn.p`. When printing a shipping document, the system uses the form code `nn` of the shipper's document format, first checking for `sofmsvnn.p`. It checks for `rcrp13nn.p` only if `sofmsvnn.p` is not found.

Therefore, any custom `sofmsvnn.p` procedure that uses the same form code `nn` as an existing shipper print `rcrp13nn.p` procedure effectively replaces the older procedure. To avoid this, select a form code that is not used by either `sofmsvnn.p` or `rcrp13nn.p` procedures.

2 Copy the sample procedure.

Copy the standard `sofmsv01.p` procedure from the source code directory to a working directory. Make sure the working directory is not in the `PROPATH`. This copy serves as the basis for your customization.

3 Rename the sample procedure.

In the working directory, rename the copied procedure, replacing the `01` in the procedure name with the two-character form code you identified in step 1. For example, if form code `15` is not in use and you want to use it for your new procedure, name your new procedure `sofmsv15.p`.

Find the scoped definition of the preprocessor titled “PROC-NAME.” Change the value of this preprocessor from `sofmsv01.p` to the name of your procedure.

4 Open your procedure for editing.

Open your procedure in the Progress procedure editor or in any other suitable text editor, such as **vi**. You might first have to change file permissions to edit the procedure.

Before proceeding, it is recommended that you read through the comments within the procedure thoroughly to familiarize yourself with its structure and the programming conventions used.

5 Determine whether custom data is required.

Is your custom shipper required to display data that is not stored within the system? If not, then skip steps 6 through 10 and proceed to step 11.

Custom data may be required at the header, line item, or trailer levels. Your procedure contains three internal procedures—*sh_gather_header*, *sh_gather_item*, and *sh_gather_trailer*—that allow maintenance of these three types of data. Each internal procedure is initially disabled by being enclosed in comments. Removing these fully enables the procedure.

6 Enable your procedure to allow maintenance of custom data.

If your printed shipper requires custom data at the header level, enable the internal *sh_gather_header* procedure by removing the enclosing comments.

If your printed shipper requires custom data at the line item level, enable the internal *sh_gather_item* procedure by removing the enclosing comments.

If your printed shipper requires custom data at the trailer level, enable the internal *sh_gather_trailer* procedure by removing the enclosing comments.

Important There is no need to modify any other procedure to call the enabled internal procedures—at all points within the shipping cycle where it is appropriate to call a shipper service, the shipper does so.

For example, in Pre-Shipper/Shipper Workbench, after the shipper header information is accepted, the system checks the form code *nn* of the shipper’s document format, finds the appropriate service encapsulation procedure *sofmsvnn.p*, and looks for an internal *sh_gather_header* procedure within the service encapsulation procedure.

If found, the internal procedure is executed and the system prompts you to enter or edit additional custom header data before going on to line item maintenance. If the internal procedure is not found, the system proceeds to line item maintenance without prompting for additional header data.

7 Modify your custom data maintenance procedures.

If enabled but not further modified, the sample versions of *sh_gather_header*, *sh_gather_item*, and *sh_gather_trailer* each prompt for entry of five fields—one for each of the five primary data types recognized by Progress. Possible data types are character, integer, decimal, logical, and date. The data entered is stored in the *qad_wkfl* table, where it can be retrieved later as needed.

While the sample versions are functional as they are, they are unlikely to satisfy your requirements without some modification. The extent of the modification depends on your requirements. The only absolute restrictions are that you must not rename the procedures or change the number, type, or order of any input or output parameters.

This is necessary since the procedure name and parameters are referenced from outside the service encapsulation procedure, in standard programs. It is strongly recommended that you follow the programming conventions detailed in the comments to the sample `sofmsv01.p` procedure.

Although it is impossible to address specific modifications, the following list provides some flexible and easily implemented possibilities:

- Add, change the type of, or remove editable fields.
- Create custom labels or display formats for editable fields.
- Store editable information in fields of `qad_wkfl` table in user fields of shipper or other existing tables, in custom tables, or in custom databases.
- Add display-only informational fields from any source, such as customer credit or item pricing information.
- Set conditions on the editability of fields.
- Build and store information accumulated from any internal source, without requiring user interface.

Note While the sample versions of `sh_gather_header`, `sh_gather_item`, and `sh_gather_trailer` are initially identical in structure, they can be modified independently according to your requirements.

8 Enable your procedure to allow archiving of custom data.

You may want to archive custom header, line item, or trailer data with standard shipper data. The internal `sh_archive` procedure lets you archive the three types of data. The sample archiving procedure is initially disabled by being enclosed in comments. Removing the comments fully enables the procedure.

You do not need to modify any other procedure to call the enabled archiving procedure—the call occurs as part of the standard Shipper Delete/Archive process.

If all of your data-gathering procedures store information only in `qad_wkfl`, as the sample procedures do, the enabled archiving procedure can function as is, since it archives associated `qad_wkfl` records in their entirety. If you modified any of your data-gathering procedures to store information in another table, you also need to modify `sh_archive` to read the data from the appropriate source and archive it.

Note The `sh_archive` procedure processes custom data from all possible levels—header, line item, and trailer. You do not need separate procedures for each of the three levels, since the archive process is invoked only once for the entire shipper. The archive procedure recursively archives additional data from the entire shipper, including the header as well as all of its child records.

9 Enable your procedure to allow deletion of custom data.

If custom header, line item, or trailer data is stored in any table other than the standard shipper data table (`abs_mstr`), you must provide a mechanism to delete the custom data.

Your procedure contains an internal `sh_delete` procedure that allows deletion of the three types of data. Like the data-gathering and archive procedures, the sample deletion procedure is initially disabled by being enclosed in comments. Removing comments fully enables it.

As with the other service procedures, you do not need to modify any other procedure to call the enabled deletion procedure. The call occurs as part of Shipper Delete/Archive, and all other areas where shipper information is deleted.

If all of your data-gathering procedures store information only in `qad_wkfl`, as the sample procedures do, the enabled deletion procedure can function as is, since it deletes associated `qad_wkfl` records in their entirety. If you have modified any of your data-gathering procedures to store information in another table, you also need to modify *sh_delete* to delete it from the appropriate source.

Note The *sh_delete* procedure deletes custom data from all three possible levels—header, line item, and trailer. You do not need separate procedures for each of the three levels. The deletion procedure recursively deletes additional data from a shipper header or detail record, as well as from all of its child records.

10 Enable your procedure to handle changing the shipper number.

If custom header, line item, or trailer data is stored in any table other than the standard shipper data table (`abs_mstr`), these records are typically identified using the pre-shipper/shipper number `abs_id`. Because `abs_id` changes when a pre-shipper is converted to a shipper, you must provide a mechanism to propagate this change to the records storing the additional data.

Your procedure contains an internal *sh_rename* procedure that allows renaming the three types of data. This procedure is initially disabled and can be enabled by removing the enclosing comments. As with the other service procedures, you do not need to modify any other procedure to call the enabled renaming procedure, since the call occurs in all areas where the `abs_id` field changes.

If all of your data-gathering procedures store information only in `qad_wkfl`, as the sample procedures do, the enabled rename procedure can function as is. If you have modified any of your data-gathering procedures to store information in any other table, you must modify *sh_rename* to change the data in the appropriate source.

Note The *sh_rename* procedure renames both header and trailer-level custom data since both are identified using the `abs_id` field of the shipper header record. Line item-level custom data does not need to be processed since the `abs_id` field of shipper line items does not change when a pre-shipper is converted to a shipper.

11 Modify your custom print procedure.

Your procedure contains an internal *sh_print* that prints a shipping document for a shipper. Because the sample `sofmsv01.p` procedure also encapsulates all of the shipper form services for standard shippers, and printing is the only service required for standard shippers, *sh_print* is the only service in the sample program that is not disabled.

Modifications to the appearance of printed shipping documents are implemented by modifying *sh_print*. While it is impossible to address specific modifications, the following describes some common ones:

- Change the location of displayed fields.
- Change the appearance, such as label or display format, of displayed fields.
- Change the content of the shipping document by displaying standard data from the shipper or other standard tables or custom data accumulated using *sh_gather_header*, *sh_gather_item*, or *sh_gather_trailer*.
- Change the overall form dimensions.

12 Document your modifications.

To document your customizations, remove any unnecessary comments copied to your new procedure from the sample procedure and add new comments describing your modifications. Although this is not required, it is highly recommended. Documenting changes facilitates future changes to the procedure and enables the procedure to be used effectively as the basis of a new customized shipper.

13 Move your procedure to the QAD system environment.

The final step is to copy your new procedure to the source code directory or directories in the propath. Also, you need to compile your procedure against the QAD databases and save the compiled version to the appropriate object code directory or directories within your environment.

Remember that for multiple-language installations, separate sets of code are maintained within language-specific subdirectories. Be sure to copy your custom procedure into the appropriate subdirectory for every language used in your installation.

Shipment Performance

This chapter describes how to set up and use features of the Shipment Performance module.

Shipment Performance Overview 188

Introduces the Shipment Performance module, which can be used to monitor shipping effectiveness.

Planning and Setup Overview 191

Describes how to plan the setup of Shipment Performance.

Setting up Shipment Performance 192

Describes the tasks you must complete before you can begin monitoring shipment performance.

Working with Shipment Performance Data 206

Describes how the system automatically collects performance data during shipping functions.

Reporting Shipment Performance Data 208

Describes reports that display performance-related data.

Deleting and Archiving Historical Data 217

Describes how to delete historical information.

Shipment Performance Overview

In a highly competitive marketplace, the ability to meet performance and required ship dates is an essential element in an effective supply chain. Companies need detailed shipment information to improve their current processes and remain competitive.

In some industries, companies are required to comply with performance criteria in order to continue in a business relationship. Well-defined metrics are needed to meet regulatory and quality standards.

With the Shipment Performance module, you can monitor shipping effectiveness by measuring how a shipping department meets customer- requested ship dates and quantities. You can choose which date to use for measuring performance based on your business practices: the line-item performance date, due date, or required date.

You can collect shipment performance data for a wide variety of shipment types including discrete and scheduled sales orders, return material authorizations (RMA), distribution orders, and material orders. Performance is measured by comparing planned ship dates and quantities to actual ship dates and quantities. Using these comparisons, the system automatically assigns two types of predefined status codes to shipments:

- Status codes that measure timeliness of shipments are called *time-based status codes*. These codes measure timeliness based on hours or days a shipment is early or late.
- Status codes that measure the completeness of shipments are called *quantity-based status codes*. These codes measure the shipment quantity or percentage either over or under the required shipment quantity.

You can optionally add reason codes to each performance transaction record. You can enter further information on status code and reason code assignment and related issues as comments. For additional tracking, you can specify categories for all shipment line items.

Example Shipment transactions that are fed through your company's warehouse system will be delayed one day due to unexpected freeway closure. You can define a time-based status code for a one-day delay and a related reason code using shiptime as the reason type and Traffic as the reason code. Shipper personnel at the warehouse use Pre-Shipper/Shipper Workbench (2.9.2) to enter the Traffic reason code during the actual shipper transaction to indicate why shipment timeliness is impacted. In the Comments field, they can enter specific information about the delay.

You can also use Shipment Performance with Change Tracking Maintenance (36.2.22). You can track changes to line item details in Sales Order Maintenance (7.1.1), such as when the due date or quantity changes.

See *User Guide: QAD System Administration* for details on change tracking.

Shipment performance reports and the information they provide can improve shipping processes by letting you monitor shipping efficiency at one or more sites. Multiple reports are available, including a performance report for reviewing the timeliness and completeness of shipments.

Shipment performance reports support *pareto analysis*. This type of analysis is based on the idea that only a vital few factors are responsible for producing most problems. The principle can be applied to shipment improvement by determining the few key problems that cause a majority of the problems (80%). These reports can help your company comply with industry standards that require shipment performance analysis.

Also available are item, customer, and reason code analysis reports for reviewing the timeliness and completeness of shipments based on items shipped, customers shipped to, and reason codes assigned. You can optionally export shipment performance data for use with external reporting systems.

Features

Using shipment performance functions, you can:

- Monitor performance for multiple shipping functions including:
 - Sales order shipments
 - Scheduled sales order shipments
 - Return material authorization (RMA) shipments
 - Distribution order (DO) shipments
 - Material order (MO) shipments
- Measure shipment performance based on required date, performance date, due date, and shipment quantity.
- Create status codes that indicate various measures of timeliness and completeness for general use or for specific combinations of customer, ship-from, receive address, and item number.
- View assigned shipment performance statuses or change assigned statuses.
- Enable and disable shipment performance recording:
 - At the domain level
 - At the customer/receiving address level
 - At the item level
 - At the ship-from site level
 - For scheduled order shipments
 - For distribution order shipments
 - For discrete sales order shipments
 - For RMA order shipments
 - For material order shipments
- Create and assign reason codes to describe why shipments were assigned status codes. You can manually assign reason codes:
 - Before shipment in Pre-Shipper/Shipper Workbench (7.9.2)
 - After completing a shipment using Shipment Reason Code Entry (7.9.17.9) or Shipment Performance Data Maintenance (7.9.17.13)
- Measure shipment performance for customer schedules based on the current active or prior schedule release. This can be set for the current domain or at the customer, ship-from, receive address, and item level.
- Export historical performance data for manipulation with external reporting tools.
- Create shipment performance reports that:
 - List shipments that have no assigned reason codes.
 - Produce detailed performance analysis.

- Display detailed line-item category information.
- Display performance impact by reason code, item, customer, and other types of information ranked from most to least significant.
- Display shipment lines with subtotals by customer, site, item, unit of measure, and currency.

Effect of Actuating Shipment Performance

When you activate this module, new features are added to some existing programs. The added features help capture, maintain, and report performance data. When you deactivate this module, the modified programs again operate as before.

Table 7.1 shows programs modified for use with the Shipment Performance module.

Table 7.1
Modified Programs

Menu	Description	Program
7.1.1	Sales Order Maintenance	sosomt.p
7.3.13	Customer Scheduled Order Maintenance	rcsomt.p
7.9.2	Pre-Shipper/Shipper Workbench	rcshwb.p
7.9.5	Pre-Shipper/Shipper Confirm	rcsois.p
7.9.15	Sales Order Shipments	sosois.p
7.9.21	Shipper Unconfirm	rcunis.p
7.13.1	Pending Invoice Maintenance	soivmt.p
10.7.1	Material Order Maintenance	fseomt.p
10.7.6	Material Order Shipments	fseops.p
11.7.1.1	RMA Maintenance	fsrmamt.p
11.7.1.16	RMA Shipments	fsrmash.p
11.11.1	Material Order Maintenance	fseomt.p
11.11.6	Material Order Shipments	fseops.p
12.17.13	Distribution Order Workbench	dsdomt01.p
12.17.14	Distribution Order Maintenance	dsdomt.p
12.17.22	Distribution Order Shipments	dsdois.p

Shipment Performance Programs

Table 7.2 lists programs included in the Shipment Performance module.

Table 7.2
Shipment Performance Programs

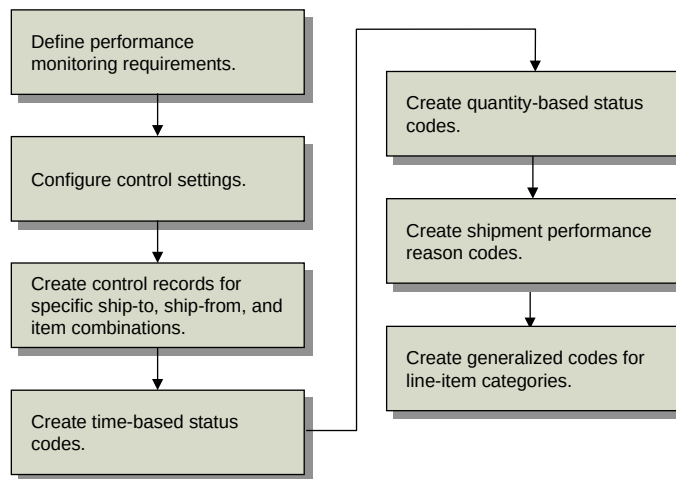
Menu	Description	Program
7.9.17.1	Performance Controls Maintenance	sospcmt.p
7.9.17.3	Time-Based Status Code Maintenance	sostmt.p
7.9.17.4	Time-Based Status Code Browse	sobr028.p
7.9.17.6	Quantity-Based Status Code Maintenance	sostqmt.p
7.9.17.7	Quantity-Based Status Code Browse	sobr029.p

Menu	Description	Program
7.9.17.9	Shipment Reason Code Entry	sorsnent.p
7.9.17.10	Missing Reason Code Report	soshprp6.p
7.9.17.13	Shipment Performance Data Maintenance	soshpmt.p
7.9.17.15	Shipment Performance Report	soshprp.p
7.9.17.17	Reason Code Analysis Report	soshprp1.p
7.9.17.18	Item Analysis Report	soshprp2.p
7.9.17.19	Customer Analysis Report	soshprp3.p
7.9.17.22	Performance Data Extract	soshpex.p
7.9.17.23	Performance Data Delete/Archive	soshpup.p
7.9.17.24	Shipment Performance Control	soshppm.p

Planning and Setup Overview

Setup of the Shipment Performance module depends on how much performance monitoring is required in your shipping environment. Clearly defined requirements simplify the setup process. Figure 7.1 illustrates the basic Shipment Performance module planning and setup flow.

Fig. 7.1
Shipment Performance Setup Flow



Determining Monitoring Parameters

Before beginning module setup, consider the following questions:

- Are you setting up a shipment performance system for one ship-from site or multiple sites?
- Will you monitor shipment performance for shipments to all receiving addresses or only specific ones? (When monitoring shipment performance for a sales order, receive addresses are customer address codes; for a distribution order, receive addresses are site codes.)
- Will you monitor shipment performance for shipments of all items or selected items?
- Will you monitor shipment timeliness, completeness, or both?
- Do you want to apply the same shipping standards for all receive addresses, ship-froms, and items, or do your shipping standards vary?

Determining Shipments to Monitor

Before you begin setting up the system, you must determine which shipments need to be monitored based on these four elements:

- Customer source of the shipment.
 - Sales order shipments
 - Scheduled sales order shipments
 - RMA shipments
 - Distribution order shipments
 - Material order shipments
- Site where the shipment was made. If you have multiple ship-from sites, determine which of these you want to monitor.
- Address receiving the shipment. Compile a list of the sites (if DO is your source) or customer addresses receiving shipments (if SO is your source) that should be monitored.
- Item being shipped. Compile a list of the items you want to monitor.

Use this information to set up Shipment Performance Control (7.9.17.24) and to create control records as needed.

See “Defining Control Program Exceptions” on page 194.

Setting up Shipment Performance

This section describes the tasks you must complete before you can begin monitoring shipment performance:

- Define control program settings.
- Create control program exceptions.
- Set up status codes.
- Define reason codes.
- Define line-item categories.

Defining Control Program Settings

Use Shipment Performance Control (7.9.17.24) to activate this module and to create generic shipment performance default settings for the current domain. These generic defaults should reflect the information you compiled in the planning stage. They represent the typical way your business environment operates.

Note Once this module is activated, the system creates performance transaction records for all shipments matching control records, even when applicable status codes are not found. See “Establishing Performance with Status Codes” on page 197.

Most of the values you define in the control program default to Performance Controls Maintenance (7.9.17.1). In that program, you can override control program settings for specific combinations of customer source, receive address, ship-from, and item number.

Fig. 7.2
Shipment Performance Control (7.9.17.24)

After you activate Shipment Performance, enter appropriate values for the following control program settings:

Measurement Sub Type. Indicate whether the due, required, or performance date should be the default date for the Performance Date field in the following shipment performance reports:

- Missing Reason Code Report (7.9.17.10)
- Shipment Performance Report (7.9.17.15)
- Reason Code Analysis Report (7.9.17.17)
- Item Analysis Report (7.9.17.18)
- Customer Analysis Report (7.9.17.19)

Measurement Sub Types are predefined in Language Detail Maintenance (36.4.2). They do not need to be set up before using the Shipment Performance module.

You cannot specify the performance date in every program that Shipment Performance analyzes:

- You can specify the due date, required date, and performance date in Sales Order Maintenance (7.1.1) and RMA Maintenance (11.7.1.1).
- You can specify due date or required date in Material Order Maintenance (10.7.1 or 11.11.1).
- You can specify due date only in Distribution Order Maintenance (12.17.3).

When performance date is not available, Shipment Performance uses the due date as the performance date, regardless of which date you enter here.

Enter Reason Codes in Workbench. You create shipment performance reason codes in Reason Code Maintenance (36.2.17). You can define reason codes with shiptime as the reason type for time-related reason codes and shipqty as the reason type for quantity-based reason codes. Reason codes are stored in the shipment history. See “Creating and Entering Reason Codes” on page 203.

When you set the value of this field to Yes, a data collection frame displays in Pre-Shipper/Shipper Workbench during maintenance of a shipper, letting users enter reason codes. Otherwise, you can use two other programs to enter codes:

- Use Shipment Reason Code Entry (7.9.17.9) to quickly enter reason codes for performance transactions that do not have assigned reason codes.
- Use Shipment Performance Data Maintenance (7.9.17.13) to enter reason codes for records that have at least one assigned reason code or if you are authorized, to change previously assigned reason codes.

Select the type of orders to monitor by entering Yes or No for sales orders, distribution orders, RMA shipments, material orders, and customer scheduled orders. The settings you indicate here should reflect the most common needs across your system.

If you choose to monitor scheduled orders, enter values for the next two fields.

Schedule Type. Enter the schedule type used to calculate shipment performance for scheduled orders:

- 1: Planning schedule
- 2: Shipping schedule
- 3: Required ship schedule (the default value)

To assign status codes for shipment performance, the system compares the actual ship date and quantity to the ship date and quantity on the indicated schedule.

Use Current Release. Indicate Yes to use the current schedule release or No to use the *prior* schedule release to measure shipment performance when shipping against scheduled orders. Typically, you select a *prior* schedule when you are in an environment that packs orders a day ahead of the actual shipment.

Defining Control Program Exceptions

Use Performance Controls Maintenance (7.9.17.1) to create control records that override general settings in Shipment Performance Control. The detailed control records are used to collect performance data for unique key combinations of customer source, ship-from, receive address, and item number.

- Customer source refers to where the order originates. There are two types of customer source: distribution orders (DO) or sales type orders (SO). Sales type orders include sales orders, scheduled orders, RMA shipments, and material orders.
- Ship-from site is the site where the shipment originates.
- Receive address values depend on the customer source you enter. If you select DO, then define the control record with a receiving site. If you select SO, then define the control record with a customer receive address.
- Item number refers to the item being shipped.

Only one control record definition can have the same combination of key values. When more than one control record might apply during shipment, the system uses the most specific record for the appropriate customer source. Records are chosen from most to least specific in the sequence listed in Table 7.3.

Table 7.3
Search Order for Control Records

Order	Ship-From	Receive Address	Item
1	✓	✓	✓
2	✓	✓	
3	✓		✓
4		✓	✓
5	✓		
6		✓	
7			✓
8			

Transit Lead Time

When the source is SO, you can enter a transit lead time for a shipment in Performance Controls Maintenance (7.9.17.1). You specify the number of days it takes for a shipment to reach the end customer from the time it leaves your dock in the Transit Lead Time field.

Note Transit lead time does not apply when source is DO.

Transit lead time differs from the shipping lead time you specify in Sales Order Control (7.1.24). Shipping lead time is added to the order due date to account for the number of days it takes to prepare an order for shipment. Transit lead time is the number of days it takes a shipment to travel to a customer.

The transit lead time that you enter in Shipment Performance is not associated with the time that you enter in Delivery Transit Time Maintenance (2.16.1). Delivery transit time is used in automatic date calculations on order lines when the Calculate Promise Date field is set to Yes in Sales Order Control (7.1.24).

The transit lead time in Shipment Performance is used to assign status codes for the required delivery dates and performance dates specified when shipping discrete sales orders. The system uses the value you enter in Shipment Performance to determine if a shipment arrives at a customer site on time. This supports more accurate shipment performance calculations related to performance and required dates.

See *User Guide: QAD Master Data*.

Defining Control Program Exceptions for a Sales Order

The appearance of Performance Controls Maintenance varies, depending on the order source. When the source is SO, you can specify the following for each control record:

- Enable or disable shipment performance monitoring.
- Specify shipment transit time.
- Indicate types of sales orders to monitor or not monitor.
- Change the schedule type being used for scheduled order calculations.
- Indicate whether to use the current or previous schedule to determine shipment performance.

Fig. 7.3
SO Source in Performance Controls Maintenance (7.9.17.1)

Performance Controls Maint...

Performance Controls Maintenance: Go To ACTIONS

Customer Source: SO

Ship-From: 10000 NJ Plant

Receive Address: 1002AB Quality Products Div 1000

Item Number:

Enable Shipment Performance: ☒

Transit Lead Time: 0

Include Sales Orders: ☒

Include RMA Shipments: ☐

Include Material Orders: ☐

Include Scheduled Orders: ☒

Schedule Type: 3

Use Current Release: ☒

Enable Shipment Performance. Enter Yes to collect performance data for the specified combination of customer source, ship-from site, receiving address, and item number. Enter No if you do not want performance data for this key combination.

Transit Lead Time. Optionally enter the number of days it normally takes a shipment to reach the receive address after that shipment leaves your dock.

Leave the default 0 (zero) to indicate that transit time should not be considered.

Refer to “Transit Lead Time” on page 195.

Select the types of orders (sales, RMA shipments, material, and scheduled) you want to track for this control record. If you select scheduled orders, enter values for the Schedule Type and Use Current Release, which default from Shipment Performance Control. See page 194.

Defining Control Program Exceptions for a Distribution Order

When the source is DO, the Performance Controls Maintenance screen appears differently than when the source is SO. For a DO source, you can specify the following for each control record:

- Enable or disable shipment performance monitoring.
- Indicate whether to include distribution orders in shipment monitoring.

Fig. 7.4
DO Source in Performance Controls Maintenance (7.9.17.1)

Performance Controls Maint...

Performance Controls Maintenance: Go To ACTIONS

Customer Source: DO

Ship-From: 10000 NJ Plant

Receive Address:

Item Number:

Enable Shipment Performance: ☒

Include Distribution Orders: ☒

Enable Shipment Performance. Enter Yes to collect performance data for the specified combination of customer source, ship-from site, receiving address, and item number. Enter No if you do not want performance data for this key combination.

Include Distribution Orders. Enter Yes to include distribution orders in shipment monitoring.

Monitoring Selective Shipments

To monitor a selective set of shipments only, you need to activate shipment performance, turn off performance monitoring of all sales orders and distribution orders, then turn on performance monitoring for only those areas you want to monitor. To do this, follow these steps:

- 1 Use Shipment Performance Control (7.9.17.24) to activate the Shipment Performance module. Indicate the most common values to use. This allows shipment tracking to begin.
- 2 Use Performance Controls Maintenance (7.9.17.1) to create a record with a customer source of SO. Leave the other key values blank. Set Enable Shipment Performance to No. This turns off shipment tracking to customers.
- 3 Create a second record with a customer source of DO. Leave the other key values blank. Set Enable Shipment Performance to No. This turns off shipment tracking to sites.
- 4 Use Performance Controls Maintenance again to create performance control records that indicate key value combinations (such as a few receive addresses or specific items) for shipments that should be monitored. This time, make sure to set Enable Shipment Performance to Yes for these control records.

The two blank records tell the system that no general performance monitoring should occur. Performance records with the appropriate combination of key values override the blank records. This supports shipment performance monitoring for only these limited control records.

Monitoring General Shipments

To set up performance monitoring for general shipments, you need to activate shipment performance, then optionally turn off performance monitoring of selective areas. To do this, follow these steps:

- 1 Use Shipment Performance Control (7.9.17.24) to activate shipment performance. Indicate the most common values to use.
- 2 Use Performance Controls Maintenance (7.9.17.1) to create performance control records that indicate the key value combinations for shipments that should not be monitored. Make sure to set Enable Shipment Performance to No for these control records.

Establishing Performance with Status Codes

When the system processes shipments, it automatically assigns status codes in the following programs:

- Pre-Shipper/Shipper Confirm (7.9.5)
- Sales Order Shipments (7.9.15)
- Pending Invoice Maintenance (7.13.1)
- Material Order Maintenance (10.7.1)
- Material Order Shipments (10.7.6)
- RMA Maintenance (11.7.1.1)

- RMA Shipments (11.7.1.16)
- Material Order Maintenance (11.11.1)
- Material Order Shipments (11.11.6)
- Distribution Order Processing (12.17.21)
- Distribution Order Shipments (12.17.22)

The system is designed to capture two types of status codes: one based on ship time and one based on shipment quantity.

The following subsections tell you how to plan and create time- and quantity-based status codes.

Planning Time-Based Status Codes

When defining time-based status codes, you should establish a baseline first. Once you establish a status code baseline, you can define status codes for combinations of specific elements of a shipment, thereby setting up a tiered approach to monitoring performance.

You establish a status code baseline by selecting codes to represent the minimum and maximum amount of time that a shipment can be late or early.

You can begin by selecting a code for an on-time delivery. Then, you can select a code to indicate one day late, two days late, and so on, and conversely, codes to represent one day early, two days early, and so on.

In your baseline, you should define the minimum and maximum days that a shipment must be late or early before the system applies the code to a shipment. Although days were used here, you can use either days or hours to define your codes.

Use Table 7.4 as a guide to creating a time-based status code baseline for your system.

Table 7.4
Time-Based Status Code Baseline Example

Status Code	Status Code Description	Minimum Early	Maximum Early	Minimum Late	Maximum Late
01	On time	0	0	0	0
02	1 day late			1	1
03	1 day early	-1	-1		
04	2 days late			2	2
05	2 days early	-2	-2		
06	More than 2 days late			3	999
07	More than 2 days early	-999	-3		

In your baseline, create status codes that cover all shipment situations. For example, even if you do not normally make shipments more than five days late, you should create a status code to address that possibility. For this status code, the minimum late value would be 5. The maximum late value would be 999. The system assigns this status code to all shipments made more than five days late.

If you do not create contingency status codes and the system encounters a shipment where none of the available status codes apply, the performance transaction record is created with a blank status code. Use Shipment Performance Data Maintenance (7.9.17.13) to add status codes to these transaction records.

See “Modifying Performance Transaction Records” on page 207.

Once you establish a baseline, you can specify codes for unique combinations of shipment areas, like a specific customer or item, so that you can monitor performance trends. Setting up these types of status codes lets you build a tiered approach to monitoring. Table 7.5 presents an example of tiered shipment performance monitoring with status codes.

Table 7.5
Example Tiered Approach

Code	Specifies...	Monitors...
010	Ship-From 1000, Customer A, Item AB-100	This specific combination
011	Ship-From 1000, Item AB-100	Shipments of Item AB-100 to any customer
012	Ship-From 1000, Customer A	Shipments of everything to Customer A
013	Ship-From 2000	Shipments from site 2000
014	<Blank>	All shipments

Based on the example data Table 7.5:

- When a shipment of AB-100 is sent from 1000 to Customer A, the system applies code 010. This is the most specific code.
- When a shipment of YY-250 is sent from 2000 to Customer B, the system uses status code 013.

Creating Time-Based Status Codes

Use Time-Based Status Code Maintenance (7.9.17.3) to create and maintain the status codes that measure shipment timeliness. Use Time-Based Status Code Browse (7.9.17.4) to review time-based status codes in your system.

Fig. 7.5
Time-Based Status Code Maintenance (7.9.17.3)

Time-Based Status Code Maint

Time-Based Status Code Maint: Go To ACTIONS

Status Code: 07 Description: More than 2 days early

Customer Source: SO

Ship-From:

Receive Address:

Item Number:

Active: ☒

Acceptable: ☐

Track By: Days

Minimum Value: -999

Maximum Value: -3

Status Code. Enter a code (up to 8 alphanumeric characters).

Note Status codes must be unique for a customer source. For example, you can create a DO status code 010 and an SO status code 010, but you cannot have two SO status codes 020.

Description. Enter a brief description (up to 16 alphanumeric characters) of this status code. Do not leave this field blank. Most shipment performance reports display the status code description, not the status code name.

Customer Source, Ship-From, Receive Address, Item Number. Enter values for these four fields. The status code is applied only for shipments that match these values. See “Defining Control Program Exceptions” on page 194.

Active. Indicate whether this status code is active. Only active status codes are assigned by shipment performance functions.

Inactive status codes are maintained in the system and can be activated for use at any time by setting this value to Yes.

Status codes can be deleted at any time, but you should consider setting Active to No instead. If you delete a status code, make sure you create a new status code or that another active status code is available to take its place. If you delete status codes without providing new status codes for similar shipment situations, the system may create transaction records with blank status codes for those shipments.

Acceptable. Indicate whether shipments assigned this status code are considered shipped on time.

Yes: This code indicates an on-time status.

No: This code indicates an *exception status*, such as late or early.

Shipments assigned an acceptable status code always appear on shipment performance reports unless the Show Exceptions Only field is Yes. In this case, only shipments with exception status codes are reported.

Track By. Enter Days or Hours to indicate status codes based on hour or day measurements. The value you specify determines the unit of measure for Minimum and Maximum fields.

Minimum. Enter the minimum number of hours or days a shipment can be early or late to be assigned this status code. This value must be the same or less than the value entered in Maximum.

If you specified Hours in Track By, the values in Minimum and Maximum represent hours. If you specified Days, the values represent days.

To designate an early status code, use negative numbers. To designate a late status code, use positive numbers.

Example To designate a status code for shipments between 5 and 10 days early, enter -10 in Minimum and -5 in Maximum. To designate a code for shipments between 5 and 10 days late, enter 5 in Minimum, and 10 in Maximum.

When the number of hours or days a shipment is early or late falls within the range specified for the status code, the system assigns this status to that shipment.

When Track By is days, beginning and ending ranges associated with status codes cannot overlap. When Track By is hours, the beginning or ending range for one status code can overlap with another.

Example Status code ST1 has 4 as the minimum and 6 as the maximum. Status code ST2 has 6 as the minimum and 8 as the maximum. The ending of the hour range for ST1 and the beginning of the hour range for status code ST2 is 6. A shipment that is 6 hours late is assigned code ST1. A shipment that is 6.5 hours late is assigned code ST2.

Maximum. Enter the maximum number of hours or days a shipment can be early or late to be assigned this status code. This value must be the same or greater than the value in Minimum.

Assigning Time-Based Status Codes

Once status codes are created, the system uses criteria to locate any applicable status codes before assigning them to shipment transactions. The system searches key values from most specific to least specific, using the same order used for performance control records.

When the system assigns time-based status codes for a discrete order, it compares the shipment date to the due date, performance date, and required date on the order line. Based on the comparisons, the system assigns the corresponding time-based status codes to the shipment. It can assign the same or different status codes for each date. For example, if the performance and due dates are not the same, the system may assign different status codes based on those dates.

See Table 7.3 on page 195.

Note If an order is missing the ship date, the current system date is used. If the due, required, or performance date is missing, the ship date is used.

When the system assigns time-based status codes for a scheduled order, it first reviews whether the scheduled order specifies a scheduled ship time. If one is specified, the system finds the most appropriate time-based status code based on hours.

If an applicable hour-defined status code is not available, the system uses available day-defined status codes to evaluate the shipment. If no scheduled ship time is specified, the system compares the shipment date to the schedule date to find the correct status code.

Planning Quantity-Based Status Codes

You should plan quantity-based status codes just as you planned the time-based status codes. Quantity-based status codes are defined exactly as time-based status codes, but are based on the amount or percentage a shipment is under or over the planned shipment quantity.

You should establish a baseline for the quantity-based status codes. You can begin with a code for a planned shipment; then assign codes for shipments that are percentages (or a certain quantity) over or short of the planned shipment.

For example, 00 can be a planned shipment, while 01 indicates 10% over, 02 indicates 20% over, and so on. You can use negative numbers to establish a baseline for shipments that are a certain percentage or quantity under a complete shipment. Plan for contingency status codes, also.

You can combine codes of varying percentages or quantities with other criteria such as ship-from, receive address, or items to create a tiered approach to monitoring your shipments.

See “Planning Time-Based Status Codes” on page 198.

Creating Quantity-Based Status Codes

Use Quantity-Based Status Code Maintenance (7.9.17.6) to create and maintain status codes that measure shipment completeness. Use Quantity-Based Status Code Browse (7.9.17.7) to review quantity-based status codes in your system.

Similar rules apply to creating quantity-based status codes as time-based status codes. Use the same key values to assign status codes for specific shipping situations.

You create quantity-based *exception status codes* by setting Acceptable to No.

You indicate how the system should measure shipment completeness by entering Number or Percent in the Track By field. Shipment percent is calculated as the actual shipment quantity, divided by the required ship quantity.

When Track By is set to Number, beginning and ending ranges associated with status codes cannot overlap. When Track By is set to Percent, the beginning or ending range for one status code can overlap with another.

The Minimum and Maximum field range indicates an overshipped and undershipped quantity or percentage range for each status code. To designate an undershipment status code, use negative numbers. To designate an overshipment status code, use positive numbers.

See “Creating Time-Based Status Codes” on page 199.

Example To designate a status code for shipments between 5 and 10 percent under the open ship quantity, enter –10 in Minimum and –5 in Maximum. To designate a code for shipments between 5 and 10 percent over the open ship quantity, enter 5 in Minimum, and 10 in Maximum.

Fig. 7.6
Quantity-Based Status Code Maintenance (7.9.17.6)

The screenshot shows the 'Quantity-Based Status Code Maintenance' window. The title bar is 'Quantity-Based Status Code...'. The window has a menu bar with 'Quantity-Based Status Code Maint:', 'Go To ~', and 'ACTIONS ~'. The main area contains the following fields:

- Status Code: 55
- Description: Over up to 10%
- Customer Source: 50
- Ship-From:
- Receive Address:
- Item Number:
- Active: ☒
- Acceptable: ☒
- Track By: Percent
- Minimum Value: 1
- Maximum Value: 10

Applying Quantity-Based Status Codes

When the system assigns quantity-based status codes to an order, it compares the quantity being shipped to the open quantity on the order to determine how much of the open quantity has been satisfied. The system also calculates the percentage of the open quantity shipped.

As the system reviews the possible status codes, it checks to see if the codes are based on the actual ship quantity or a percentage of the open quantity for an order line. If the code is based on the actual ship quantity, the quantity shipped is used to locate the correct status code record. If the code is based on a percentage, the percentage of the open quantity shipped is used to locate the correct status code.

Once the correct code is found, the system assigns it to the performance transaction record.

Quantity-based status codes are assigned based on the open quantity at the time of shipment. This is true even when partial shipments occurred previously and the open quantity is no longer the original order quantity. When the shipment quantity is over or under the open shipment quantity by a percentage that falls within the specified range for a status code, the system assigns that status code to the shipment.

Creating and Entering Reason Codes

Reason codes provide a quick way to note special requirements or other predefined comments related to shipments. You can associate time and quantity-based reason codes with any monitored shipment or performance transaction record.

Use Reason Codes Maintenance (36.2.17) to create reason codes for shipment performance history.

- Use *shipqty* as the reason type for quantity-based reason codes.
- Use *shiptime* as the reason type for time-based reason codes.

Enter reason codes prior to making a shipment or assign them to a performance transaction record after a shipment has been completed.

- When using shippers, assign reason codes while adding or modifying shipper lines in Pre-Shipper/Shipper Workbench (7.9.2). This feature is controlled by the setting Enter Reason Codes in Workbench to Yes in Shipment Performance Control.
- Use Shipment Reason Code Entry (7.9.17.9) to enter shipment performance reason codes for shipments that have been processed and do not have reason codes associated with them.
- Use Shipment Performance Data Maintenance (7.9.17.13) to assign reason codes or change previously assigned codes for any performance transaction record.

See “Enter Reason Codes in Workbench” on page 193.

Entering Reason Codes in Pre-Shipper/Shipper Workbench

To enter reason codes in Pre-Shipper/Shipper Workbench (7.9.2), Enter Reason Codes in Workbench must be Yes in Shipment Performance Control (7.9.17.24). When you add a shipper line or modify an existing shipper line in the workbench, you can then use the Shipment Performance Data frame to enter reason codes and comments.

Fig. 7.7
Pre-Shipper/Shipper Workbench (7.9.2), Shipment Performance Data

The screenshot shows a window titled "Shipment Performance Data". It contains three input fields: "Reason - Time:" with the text "equip", "Reason - Qty:", and "Comment:" followed by a small square icon.

Assigning Reason Codes to Performance Transaction Records

Use Shipment Reason Code Entry (7.9.17.9) to assign reason codes to performance transaction records. Transactions previously assigned reason codes cannot be modified with this program.

Note Use the Missing Reason Code Report (7.9.17.10) to review shipment performance transactions without associated reason codes.

This maintenance function has three frames: header, Shipment Details, and Reason Codes. Specify data to identify shipments in the header frame.

Fig. 7.8
Shipment Reason Code Entry (7.9.17.9)

The Shipment Details frame displays transaction detail records that match the header selection criteria. Select a shipment transaction ID for assigning reason codes and updating comments.

Fig. 7.9
Shipment Details and Reason Codes Frames

In the Reason Codes frame, set Details to Yes to see all details associated with the transaction ID you selected. After the detail frames display, enter reason codes and any associated comments.

Figure 7.10 illustrates the transaction detail frames.

Fig. 7.10
Transaction Record Detail Frames

Creating and Entering Line-Item Categories

You can optionally assign categories to line items on sales and distribution orders. This feature is available to all users. When you use the Shipment Performance module, the line-item category is included in the performance transaction record and can have special significance for performance reporting.

Use categories to group similar line items and support detailed shipment performance reporting. Create categories in Generalized Codes Maintenance (36.2.13) for field name line_category. You can define any number of categories to describe an order line, such as:

- Rush
- Emergency
- Special stock
- Regular stock

Enter a category at the line-item level in the following programs:

- Sales Order Maintenance (7.1.1)
- Pending Invoice Maintenance (7.13.1)
- Customer Scheduled Order Maintenance (7.3.13)
- Material Order Maintenance (10.7.1)
- RMA Maintenance (11.7.1.1)
- Material Order Maintenance (11.11.1)
- Distribution Workbench Maintenance (12.17.13)
- Distribution Order Maintenance (12.17.14)

Fig. 7.11
Sales Order Maintenance (7.1.1), Line-Item Category Field

The screenshot shows the 'Sales Order Maintenance' window for Sales Order: SO231. The 'Sales Order Line' table lists one line item (Ln 1) with Item Number TT-500, Qty Ordered 500.0, UM EA, List Price 1.00, Discount 0.0, and Net Price 1.00. The 'Line Details' section shows various fields including Desc (Standard wire clip), Loc, Site (10000), Cost (0.00), Lot/Serial, Qty Allocated (500.0), Qty Picked (0.0), Qty Shipped (0.0), Qty to Invoice (0.0), Salesperson 1, Commission 1 (0.00%), Category (Rush), Fixed Price (checked), and Comments. The 'Line-item category' label points to the 'Category' field.

When a performance transaction record is created for an order line item, the category becomes part of the transaction record. You can analyze shipment performance data based on line-item categories using the following reports:

- Missing Reason Code Report (7.9.17.10)
- Shipment Performance Report (7.9.17.15)
- Reason Code Analysis Report (7.9.17.17)

- Item Analysis Report (7.9.17.18)
- Customer Analysis Report (7.9.17.19)

Use Shipment Performance Data Maintenance (7.9.17.13) to modify line-item categories for performance transaction records.

See page 207 for details.

Working with Shipment Performance Data

Once you have completed the setup tasks, the system automatically collects performance data during shipping functions. It creates a shipment performance transaction record for all registered ship-froms, receive addresses, and items.

Creating Performance Transaction Records

Transaction records are created by the following shipment-processing functions:

- Pre-Shipper/Shipper Confirm (7.3.19)
- Sales Order Shipments (7.9.15)
- Pending Invoice Maintenance (7.13.1)
- Material Order Maintenance (10.7.1)
- Material Order Shipments (10.7.6)
- RMA Maintenance (11.7.1.1)
- RMA Shipments (11.7.1.16)
- Material Order Maintenance (11.11.1)
- Material Order Shipments (11.11.6)
- Distribution Order Processing (12.17.21)
- Distribution Order Shipments (12.17.22)

The system reviews Shipment Performance Control settings for the particular activity. For example, if you are processing a discrete order, it checks Shipment Performance Control to see if shipment performance should be monitored for discrete orders. Before assigning shipment performance status codes to scheduled orders, the system checks to see which schedule release should be used for shipment time and quantity comparisons.

The system creates performance transaction records even when no status codes are assigned. For example, if a shipment is processed and no predefined status codes apply, the system creates a transaction record with blank status codes. Use Shipment Performance Data Maintenance (7.9.17.13) to add status codes to these transaction records. Make sure you create new status codes for use with similar future shipments.

Note Whenever you unconfirm a shipper using Shipper Unconfirm (7.9.21), associated performance transactions are removed from the system. Shipper Unconfirm deletes shp_hist and associated shpd_det records.

Modifying Performance Transaction Records

Use Shipment Performance Data Maintenance (7.9.17.13) to modify performance data and add comments to any performance transaction record. You cannot use this program to delete existing records or to create new ones.

Fig. 7.12
Shipment Performance Data Maintenance (7.9.17.13)

The screenshot displays the 'Shipment Performance Data Maintenance' window. On the left, a list of transactions is shown with fields like Customer Source, Customer, Receive Address, Customer Type, Class, Order, Requisition, Item Number, Ship-From, Customer Item, Shipper, Release, and User ID. The main area shows the details for 'Transaction ID: 1'. Fields include Ship Date (04/25/2007), Ship Time (13:35), Schedule Time, Status (04), Acceptable (checkbox), UOM (EA), Open Quantity (100.0), Extended Price (100.00), Ship Qty (100.0), Ship Price (100.00), Reason - Time, Reason - Qty, UOM Conversion (1.0000), Currency (USD), Category, Comments, and Include in Reporting (checkbox).

Most of the fields in this program display data that cannot be modified. This section discusses only the fields you can update.

Note When you change values, the system does not recalculate and assign new status codes for a shipment. You must manually update related fields that should also change.

Transaction ID. Enter the transaction ID of the performance transaction record to modify. Transaction IDs are assigned by the system when a record is initially generated. Optionally use next/previous to find the transaction ID to modify.

Performance transaction records are created by the system in numerical order, ranging from 00000000 to 99999999. When the last record is created, the system recycles unused transaction numbers beginning with the first available record number. You can archive or delete transaction records.

See “Deleting and Archiving Historical Data” on page 217.

Ship Date. The system displays the date the shipment was made. You can optionally modify the ship date.

Ship Time. The system displays the time the shipment was made. You can optionally modify the ship time.

Schedule Time. The system displays the scheduled time associated with the schedule requirement shipped against. This is used only for scheduled or sequence scheduled orders.

You can optionally modify the schedule time for most shipments.

Due, Required, and Performance Date. The system displays the due, required, and performance dates for this shipment.

Ship Variance. The system displays the percentage that the actual ship quantity was over or under the open quantity. This number is calculated by comparing the shipment quantity to the open quantity at the time the shipment was processed. You can optionally change the ship variance percentage.

Status. The system displays the status codes assigned to this shipment based on comparisons between the ship date and the due date, required date, performance date, or ship variance. You can optionally change the status code. This change affects this shipment record only.

Acceptable. This value indicates whether the assigned status code was defined with Acceptable set to Yes or No. You can change the value of this field.

Status codes are defined as acceptable or unacceptable in Quantity-Based Status Code Maintenance (7.9.17.6) or Time-Based Status Code Maintenance (7.9.17.4).

Reason – Time. The system displays any reason code related to the timeliness of the shipment. This field is validated against values defined in Reason Code Maintenance for a reason type of shiptime.

Category. The system displays the category assigned to the order line.

You can optionally delete or change order-line category. This field is validated against values defined in Generalized Codes Maintenance for field name line_category.

Reason – Qty. The system displays the reason code related to the completeness of the shipment.

This field is validated against values defined in Reason Code Maintenance for a reason type of shipqty.

Include in Reporting. Enter No to exclude this record from shipment performance reports. Otherwise, leave the default Yes.

When Yes, this information is included by the following Shipment Performance reports:

- Shipment Performance Report (7.9.17.15)
- Reason Code Analysis Report (7.9.17.17)
- Item Analysis Report (7.9.17.18)
- Customer Analysis Report (7.9.17.19)

Reporting Shipment Performance Data

Two Shipment reports can be used to display performance-related data. The other reports described in this section are available on the Shipment Performance menu.

Backlog/Missed Shipment Report

Use Backlog/Missed Shipment Report (7.9.18) to display order data for sales orders and scheduled orders that have not been shipped. It displays the customer, order and line number; line-item due, performance, and required dates; quantity ordered; unit of measure; and ship quantity for each order.

Fig. 7.13
Backlog/Missed Shipment Report (7.9.18)

Fill Rate Report

Use Fill Rate Report (7.9.19) to calculate and display the delivery performance based on the due date. The delivery performance measurement is expressed as two percentages:

- Number of lines with a quantity to be shipped compared to the total number of lines
- Quantity of items shipped compared to the order quantity

Both percentage calculations are based on the due date. The performance and required dates are not considered.

The summary report provides data based on the selected sort option. The detailed report provides the summary and additional information about each order line selected.

Fig. 7.14
Fill Rate Report (7.9.19)

Missing Reason Code Report

Use Missing Reason Code Report to generate a list of shipment performance transactions that do not have associated reason codes. After finding shipments with missing reason codes, use Shipment Reason Code Entry (7.9.17.10) or Shipment Performance Data Maintenance (7.9.17.13) to enter the missing reason codes.

See page 203.

Fig. 7.15
Missing Reason Code Report (7.9.17.10)

Shipment Performance Report

The Shipment Performance Report (7.9.17.15) displays the overall shipping performance by time-based status code. It calculates and displays item totals for each unit of measure and currency combination. Depending on sort option, it shows totals for items, customers, sites, and reason codes by time-based status code.

Fig. 7.16
Shipment Performance Report (7.9.17.15)

Performance Date. Enter Due, Required, or Performance to indicate the performance transaction records to display based on the date used to calculate the associated status codes.

The due, required, or performance date is displayed on the report as the Perf Date.

Note You cannot enter performance date in every program analyzed on this report. When this is the case, due date is used as the performance date, regardless of which date type is entered.

This field defaults from Shipment Performance Control.

See “Measurement Sub Type” on page 193.

Exceptions Only. Enter either No or Yes.

No: The report displays all shipments, including early, late, undershipped, and overshipped shipments.

Yes: The report displays only performance transaction records with exception status codes. These status codes have Acceptable set to No. All other records are omitted.

Show Amounts. Enter Yes to show all currency totals; otherwise, leave the default No. This option lets you produce reports with zero currency amounts, allowing for greater confidentiality of your finances.

Print Comments. Specify whether to include reason and status code comments associated with each performance transaction record. Comments are printed only when the report is run in detail mode.

Detail Report. Enter Detail to generate a detailed report; otherwise, leave the default Summary to produce a summary report.

The summary report shows the item, customer, and site totals, as well as the currency total, quantity, and unit of measure.

The detail report shows the summary totals as well as details for all associated transaction records.

Report UM. Enter a valid unit of measure defined in Unit of Measure Maintenance (1.13). The system uses this unit of measure for item totals at the customer and site levels.

A report UM is needed when the quantities represented by various shipments are expressed in more than one unit of measure. The system converts these quantities to the common unit of measure you specify so that totals can be compared meaningfully.

For this conversion to work correctly, a conversion factor must be defined between each shipment unit of measure and the report unit of measure in Unit of Measure Maintenance.

Item Analysis Report

The Item Analysis Report (7.9.17.18) displays the items from shipments with exception status codes. You can run this report in detail or summary mode:

- Summary mode displays the total shipments of each item and the number of shipments with exception status codes. Figure 7.18 illustrates a summary report.
- Detail mode shows detailed shipment information, including the receive address, transaction ID, and applicable dates.

Fig. 7.17
Item Analysis Report (7.9.17.18)

The screenshot shows a software window titled "Item Analysis Report" with a standard Windows-style title bar (minimize, maximize, close buttons). Below the title bar is a menu bar with "Item Analysis Report:", "Go To", and "ACTIONS". The main area contains several input fields and checkboxes:

- Customer Source: [text field with magnifying glass icon]
- Sold-To: [text field] To: [text field]
- Receive Address: [text field] To: [text field]
- Site: [text field] To: [text field]
- Order: [text field] To: [text field]
- Item Number: [text field] To: [text field]
- Ship Date: [text field] To: [text field]
- Category: [text field] To: [text field]
- Maximum Items: [text field]
- Items Shipped Early: ☐
- Items Shipped Late: ☐
- Items Under Shipped: ☐
- Items Over Shipped: ☐
- Item Summary: ☐
- Performance Date: [text field]
- Detail Report: Summary
- Output: [text field]
- Batch ID: [text field]

The total shipments and the number of shipments with exception status codes are compared to calculate an unacceptable percentage for each item. Item information on each section of the report is displayed from the highest to the lowest occurrence percentage. As shown in Figure 7.18, the Item Summary section of the report displays the percentage in the Summary% column.

If information for a particular section of the report is not available, that section does not display. Data for all sections of the report displayed in Figure 7.18 were available.

Additionally, the percentage in the Summary% section can exceed 100% if multiple status codes are assigned to a shipment. For example, a shipment that is undershipped and shipped late has two status codes assigned. If this is the only shipment of that item, then the report shows two occurrences for that shipment. Summary% for the shipment displays 200.

Fig. 7.18
Item Analysis Summary Report Layout

Items Shipped Early				
Item Number	Description	Occurrence	Total Shipments	Early%
22-100	CORD, POWER, UK	1	6	16.67
Items Shipped Late				
Item Number	Description	Occurrence	Total Shipments	Late%
consign-p3	Consignment Power3	1	1	100.00
Items Under Shipped				
Item Number	Description	Occurrence	Total Shipments	Under%
22-100	CORD, POWER, UK	3	6	50.00
10-10000	OASIS(TM) COOLING SYSTEM	2	4	50.00
2003-mfd	mfd Item 2	1	4	25.00
Items Over Shipped				
Item Number	Description	Occurrence	Total Shipments	Over%
10-10000	OASIS(TM) COOLING SYSTEM	2	4	50.00
22-100	CORD, POWER, UK	1	6	16.67
Item Summary				
Item Number	Description	Occurrence	Total Shipments	Summary%
consign-p3	Consignment Power3	1	1	100.00
10-10000	OASIS(TM) COOLING SYSTEM	4	4	100.00
22-100	CORD, POWER, UK	5	6	83.33
2003-mfd	mfd Item 2	1	4	25.00

Customer Analysis Report

Customer Analysis Report (7.9.17.19) is similar to Item Analysis Report. It displays customers that receive shipments with exception status codes.

You can run the report in either summary or detail mode:

- Summary mode shows the total number of shipments received by each receive address or receiving site and the total shipments with exception status codes.
- Detail mode also shows every shipment and all ship quantities, including assigned status codes.

The report layout is similar to the Item Analysis Report layout, but is based on customer occurrences rather than item occurrences. See Figure 7.18 for a model of the summary report layout.

Fig. 7.19
Customer Analysis Report (7.9.17.19)

Reason Code Analysis Report

The Reason Code Analysis Report (7.9.17.17) displays the most commonly occurring time-based and quantity-based reason codes recorded during shipment. You can optionally indicate the number of reason codes to display. Results display separately for time-based and quantity-based reason codes.

You can also run this report in detail mode. Details include the transaction ID, site, customer, line item, delivery dates, and other pertinent information.

Fig. 7.20
Reason Code Analysis Report (7.9.17.17)

Exporting Historical Performance Data

Use Performance Data Extract (7.9.17.22) to generate a space-delimited file containing shipment performance history (shp_hist) and shipment performance history detail (shpd_det) data. The export file lists each complete shp_hist record, followed by the related shpd_det records, which are followed by the next shp_hist record and so on.

Using data management software, such as a spreadsheet application, you can import the data file for sorting and additional calculations.

Set Report to Yes to view a summary of the records being exported. The summary report shows the transaction ID, customer, receive address, site, order, and line-item number for each exported history record.

Fig. 7.21
Performance Data Extract (7.9.17.22)

Table 7.6 shows the format for the shp_hist record.

Table 7.6
Export File Format for shp_hist Records

Order	Field Name	Data Type	Format
10	shp_nbr	character	x(8)
20	shp_line	integer	>>9
30	shp_shipfrom	character	x(8)
40	shp_part	character	x(18)
50	shp_cust_part	character	x(30)
60	shp_open_qty	decimal-10	->, >>>, >>9.9<<<<<<<
70	shp_ext_price	decimal-10	->>>>, >>>, >>9.9<<<
80	shp_due_date	date	99/99/99
90	shp_req_date	date	99/99/99
100	shp_perf_date	date	99/99/99
110	shp_ship_date	date	99/99/99
120	shp_cust	character	x(8)
130	shp_ship_qty	decimal-10	->, >>>, >>9.9<<<<<<<
140	shp_ship_price	decimal-10	->>>>, >>>, >>9.9<<<
150	shp_abs_id	character	x(20)
160	shp_include	logical	yes/no
170	shp_tran_id	integer	>>>>>>9
180	shp_mod_date	date	99/99/99
190	shp_mod_userid	character	x(8)
200	shp_shipto	character	x(8)
210	shp_ship_time	character	99:99
220	shp_rel_id	character	x(30)
230	shp_cmtindx	integer	>>>>>>9
240	shp_order_category	character	x(8)
250	shp_customer_source	character	x(3)
260	shp_ship_um	character	x(2)
270	shp_ship_um_conv	decimal-10	>>>>9.9999<<<<

Order	Field Name	Data Type	Format
280	shp_currency	character	x(3)
290	shp_ord_um	character	x(2)
300	shp_ord_um_conv	decimal-10	>>>>9.9999<<<<
310	shp_sched_time	character	99:99
320	shp_do_req	character	x(8)
330	shp__qadc01	character	x(8)
340	shp__qadc02	character	x(8)
350	shp_user1	character	x(8)
360	shp_user2	character	x(8)
370	shp_qty_pct	decimal-2	->>9.99

Table 7.7 shows the space-delimited file format for the shpd_det record.

Table 7.7
Export File Format for shpd_det Records

Order	Field Name	Data Type	Format
10	shpd_tran_id	integer	>>>>>>>>
20	shpd_measurement_type	integer	>
30	shpd_status_code	character	x(8)
40	shpd_rsn_code	character	x(8)
50	shpd_acceptable	logical	yes/no
60	shpd_rsn_type	character	x(8)
70	shpd_meas_subtype	integer	9
80	shpd__qadc01	character	x(8)
90	shpd__qadc02	character	x(8)
100	shpd_mod_userid	character	x(8)
110	shpd_mod_date	date	99/99/99
120	shpd_user1	character	x(8)
130	shpd_user2	character	x(8)

In Table 7.7, note the following:

- shpd_measurement_type includes:
 - 1–date measurement
 - 2–quantity measurement
- shpd_meas_subtype defines the date measurement for shpd_measurement_type as:
 - 1–due date
 - 2–required date
 - 3–performance date
- shpd_status_code refers to status code master (sttq_mstr)
- shpd_rsn_code refers to reason code master (rsn_ref)

Deleting and Archiving Historical Data

The system does not automatically delete historical information at period or year end. You can delete this information as often as you want.

Performance Data Delete/Archive (7.9.17.23) is similar to other delete/archive functions in the system. The archive file name is automatically generated. The prefix is *sh*, followed by the year, month, and day.

Example A file archived July 4, 2007, is named *sh020707.hst*. No other identifying information is attached to the archive file.

Fig. 7.22
Performance Data Delete/Archive (7.9.17.23)

The screenshot shows a software window titled "Performance Data Delete/Ar...". The window has a menu bar with "Performance Data Delete/Archive:", "Go To", and "ACTIONS". The main area contains search criteria on the left and a list of "To:" fields on the right. The search criteria include: Customer Source: SO, Sold-To, Receive Address, Site, Order, Type, Customer Class, Item Number, Ship Date (with a dropdown arrow), and Category. Each field has a magnifying glass icon. The "To:" fields are empty. At the bottom, there are checkboxes for "Delete:" and "Archive:", and a text field for "Archive File:". An "Output:" label is at the bottom right.

Customer Consignment Inventory

The Customer Consignment Inventory module lets you plan, order, ship, track, and report customer-consigned inventory using an automated system that reconciles inventories between suppliers and customers. Invoicing and AR transactions are deferred until the inventory is used by the customer.

This chapter describes how to set up and manage consigned inventory. It also gives an overview of the reporting tools available for reviewing and tracking consignment activity.

Customer Consignment Inventory Overview 220

Illustrates how to plan, order, ship, track, and report customer-consigned inventory using the Customer Consignment Inventory module.

Customer Consignment Inventory Business Workflow 222

Describes the complete consignment inventory workflow beginning with the contract and ending with accounts receivable.

Planning and Setup 225

Outlines how to set up different kinds of data for the module.

Managing Consigned Inventory 229

Describes the key management functions of the module.

Invoicing Consigned Shipments 250

Describes how to invoice shipments.

Reporting Consignment Inventory Data 251

Describes the reports for collecting, locating, tracking, and reviewing consigned inventory.

Customer Consignment Inventory Overview

The Customer Consignment Inventory module lets you plan, order, ship, track, and report customer-consigned inventory. The module extends the sales order process by providing transactions to ship inventory and identify it as in-transit or consigned. These transactions also delay the standard accounts receivable (AR) booking process until inventory is consumed. When the customer notifies the supplier of usage, standard invoice transactions occur.

Customer Consignment Inventory lets suppliers continue to track inventory, even after it has been shipped and while it resides at the customer facility. This method requires the customer to notify the supplier that inventory has been used, which completes the transfer of ownership.

Using consigned inventory eliminates the need for the supplier to buy back the excess sent to the customer or remaining at the end of the consignment period. Because the supplier still owns the inventory, any excess is simply returned.

Using key features of Customer Consignment Inventory, you can:

- Create consigned inventory, inventory offset, and in-transit accounts at the system level, for product lines, or for combinations of sites and product lines.
- Retain ownership of consigned inventory by deferring invoice and AR transactions until the inventory is used by the customer.
- Track consigned inventory automatically by defining inventory locations for items that are in-transit and items received by a customer.
- Maintain visibility of consigned inventory from shipment through consumption even while it is in-transit or at a customer facility.
- Set up consignment defaults at the system level for the majority of your sales orders and scheduled orders and tailor defaults for individual ship-to addresses and items.
- Separate shipping and billing functions to accurately determine inventory value.
- Create and ship sales orders that include both non-consigned and consigned items.
- Automatically replenish inventory as it is used by adding a new line to the current release of a scheduled order.
- Manually adjust inventory transfers if needed.
- Include or exclude consigned items during physical inventory or cycle count.
- Import EDI transmissions to generate consumption records automatically, or manually create records as needed.
- Easily reverse transactions when you have excess, rejected, or returned inventory.
- Improve accuracy of consigned inventory information including its location, status, age, and order details.
- Generate reports and inquiries that sort and display details according to your needs:
 - Identify unconsumed inventory that exceeds its maximum aging date.
 - Compare inventory shipped with inventory consumed.
 - Compare inventory shipped and consumed with inventory paid for.

Customer Consignment Programs

Table 8.1 lists programs included in Customer Consignment Inventory.

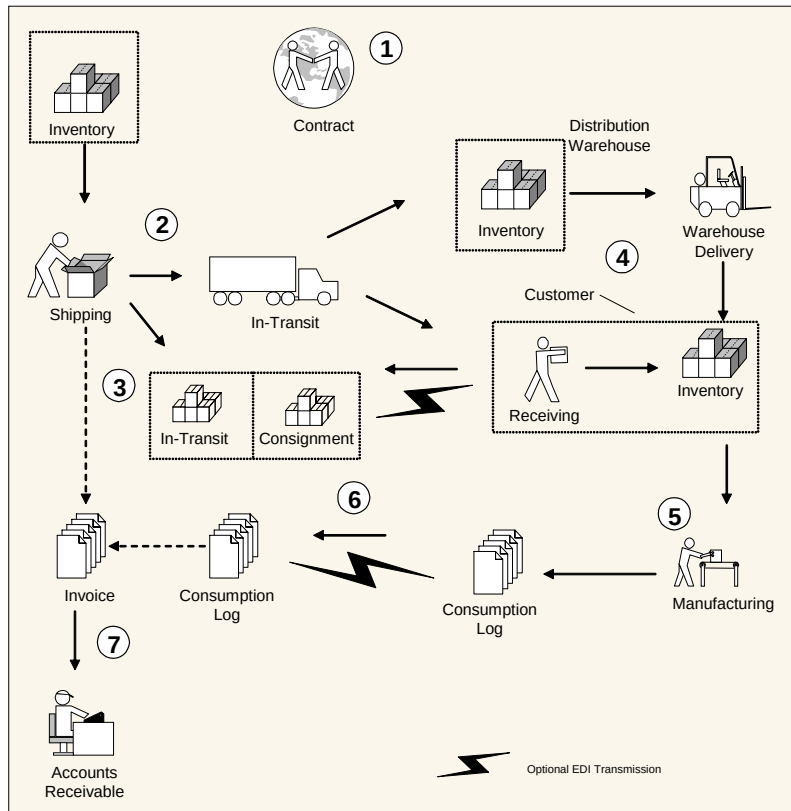
Table 8.1
Customer Consignment Inventory Programs

Menu Number	Description	Program Name
7.18	Customer Consignment Inventory ...	
7.18.1	Ship-To/Item Controls Maintenance	socnstmt.p
7.18.2	Ship-To/Item Controls Report	socnstrp.p
7.18.4	Consignment Reports Menu ...	
7.18.4.1	Consignment Inventory Report	ppptrp10.p
7.18.4.2	Consignment Inventory by Location	iclorp02.p
7.18.4.3	Consignment Inventory by Order	socnrp01.p
7.18.4.4	Consignment by Order with Sequence	socnrp06.p
7.18.4.7	Aging Inventory Report by Order	socnairp.p
7.18.4.8	Aging Inventory Report by Part	socnair1.p
7.18.4.9	Aging Inventory by Order with Sequence	socnrp07.p
7.18.4.13	Inventory Usage Report	socnrp04.p
7.18.4.14	Authorization Usage Report	socnrp09.p
7.18.4.15	Sequenced Usage Report	socnrp08.p
7.18.4.16	Usage Report by Order	socnrp02.p
7.18.4.17	Usage Report by Order with Sequence	socnrp10.p
7.18.7	Consignment Inventory Transfer	socnxfer.p
7.18.10	Aging Inventory Update	socnaimt.p
7.18.11	Aging Inventory Batch Update	socnaiup.p
7.18.13	Inventory Usage Create	socnuac.p
7.18.14	Authorization Usage Create	socnuac3.p
7.18.15	Sequenced Usage Create	socnuac5.p
7.18.16	Usage Inquiry	socnuiq.p
7.18.17	Authorization Usage Inquiry	socnuaiq2.p
7.18.18	Sequenced Usage Inquiry	socnusi.q.p
7.18.19	Shipper Usage Create	socnuac7.p
7.18.22	Usage Create Undo	socnundo.p
7.18.24	Customer Consignment Control	socncpm.p
7.18.25.1	Consignment Inventory Adjustment	socnadj.p

Customer Consignment Inventory Business Workflow

Figure 8.1 shows the complete consignment inventory workflow beginning with the contract and ending with accounts receivable.

Fig. 8.1
Consignment Inventory Business Flow



Creating a Sales Order

A contract is created between a supplier and a customer that dictates the items to be sold on consignment (step 1 in Figure 8.1). The contract is either a discrete sales order or a scheduled sales order. It includes clauses on deferring liability. The contract may also include a maximum number of aging days that a customer is permitted to hold items without liability of payment. This ensures that inventory will be consumed in a timely manner.

Allocating and Shipping Inventory

Inventory is allocated to the sales order by either general or detail allocations. This is standard processing. Inventory is packed and shipped to the customer according to the requirement dates, times, and quantities. Traditional shipping documents are generated and advance ship notice (ASN) information is transferred to the customer as required (step 2 in Figure 8.1).

The consigned inventory is not yet available to be invoiced and must still be tracked until the customer has consumed it. Physically, the shipped inventory has left the manufacturing facility. The inventory is still tracked as either being in-transit or residing at a customer's consignment location (step 3 in Figure 8.1).

Tracking the Inventory

The shipped inventory arrives at its destination, either the customer's receiving dock or a distribution warehouse in close proximity to the customer (step 4 in Figure 8.1). When the customer receives the inventory and notifies the supplier of its receipt, the inventory is then transferred from in-transit to consignment. Likewise, when an external warehouse sends inventory to the customer, it sends the supplier the information to move the inventory from its in-transit location to its consignment location.

Consuming the Inventory

The consigned inventory is eventually issued from stock, backflushed, or otherwise consumed by the customer (step 5 in Figure 8.1). This consumption activity triggers the transfer of ownership and must be logged for the customer to relay the information to the supplier.

Invoicing the Inventory

The customer relates the consumption activity to the supplier, which makes the consumed inventory available to be invoiced (step 6 in Figure 8.1).

Once the invoice is generated, standard invoice posting and printing are performed (step 7 in Figure 8.1). Either the invoice is sent to the customer or payments are received for consumed inventory using the optional self-billing functions.

Inventory records are automatically updated and can be used to verify transactions in a variety of ways to define inventory balances and locations.

See *User Guide: QAD Financials* for details on self-billing.

Using Customer Consignment Inventory with EMT

Enterprise Material Transfer (EMT) lets you translate sales orders into purchase orders automatically and transmit those purchase orders to secondary business units (SBU) electronically using EDI eCommerce. You can use EMT with the Customer Consignment Inventory module regardless of whether items are shipped directly by the SBU or received at your site for shipment.

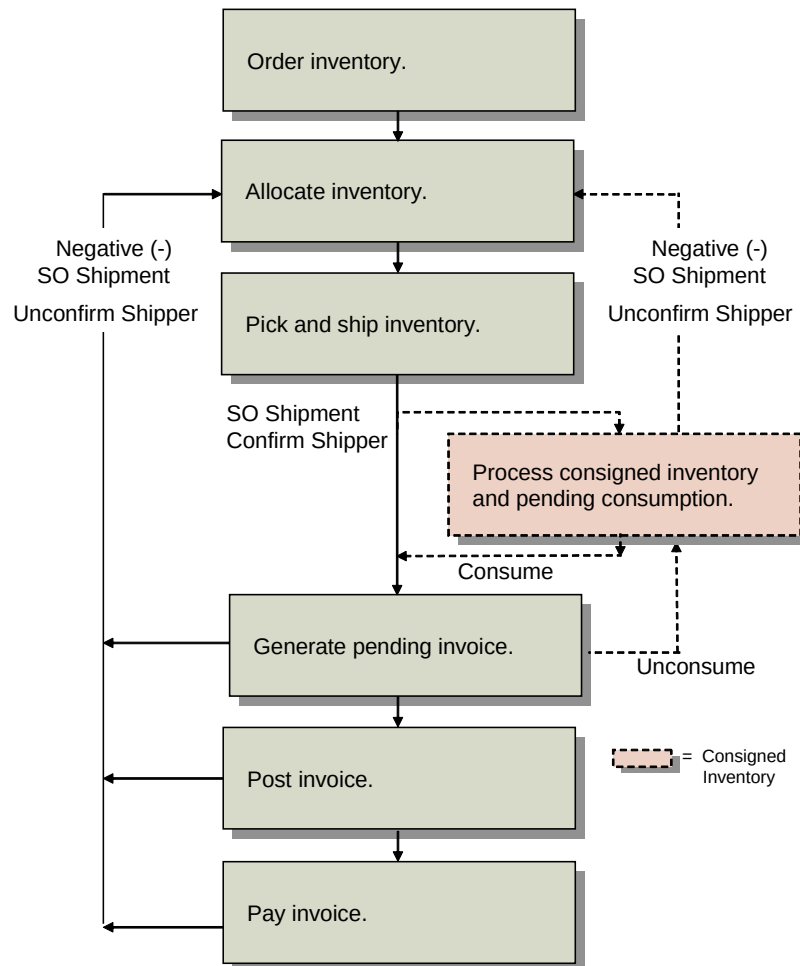
All of the invoicing is managed by the site creating the original sales order—known in EMT as the primary business unit (PBU). When the PBU imports an advance ship notice from the SBU or receives the actual items into inventory, the items are transferred to the consignment or in-transit location rather than being issued out of inventory. The actual sales order issue occurs when the customer receiving the items notifies the PBU of usage, just like other consigned shipments.

See Chapter 9, “Enterprise Material Transfer (EMT),” on page 255.

Consignment Process Summary

Figure 8.2 shows the sequence in which the Customer Consignment Inventory module processes data within the system.

Fig. 8.2
Consignment Overview



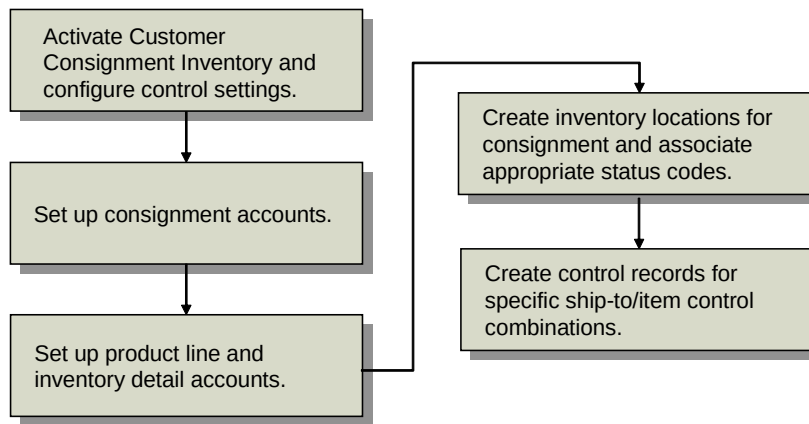
Planning and Setup

Before using the Customer Consignment Inventory module, you must set up different kinds of data:

- Base data standard to the system such as items, addresses, and GL accounts. These activities are not discussed in this chapter.
- Base data specific to the Customer Consignment Inventory module.
- Control settings that determine defaults and processing options.

Figure 8.3 illustrates the typical workflow for setting up Customer Consignment Inventory.

Fig. 8.3
Customer Consignment Setup Flow



Activate Customer Consignment and Configure Control Settings

Use Customer Consignment Control (7.18.24) to activate the Customer Consignment Inventory module. All values default to Ship-To/Item Controls Maintenance (7.18.1), where you can modify them for specific combinations of ship-to addresses and items.

Fig. 8.4
Customer Consignment Control (7.18.24)

The screenshot shows the 'Customer Scheduled Order...' window. The title bar includes 'Customer Scheduled Order Maint: Go To ~ ACTIONS ~'. The main area displays the following information:

- Ship-From: 10000
- Order: SO234
- Ship-To: 1002AB
- Quality Products Div 1000

Below this is a section titled 'Consignment Order Data' with the following fields:

- Consignment Location: 1002AB-C (with a search icon)
- In-Transit Location: (with a search icon)
- Maximum Aging Days: 60
- Automatic Replenishment: ☐

Using Consignment Inventory. Use this field to activate the Customer Consignment Inventory module. The default is No.

No: Standard sales order programs display. The system bypasses all consignment screens.

Yes: The Customer Consignment Inventory module is active. You can use Customer Consignment Inventory programs.

Once you have activated the module, created consigned items, or performed transactions, entering No to deactivate the module displays a warning message. Unless all consigned items are consumed, the system warns you that non-invoiced consigned items exist and prompts you to confirm your action.

Consignment Orders. Specify the default value for the Consignment Orders field in the header of new sales and scheduled orders:

No: Enter No if the majority of shipments are standard sales orders.

Yes: The Consignment Orders field on the header of all new sales orders and scheduled orders is Yes. This, in turn, sets the Consignment field on the order line to Yes by default.

In either case, you can combine lines for both consigned and non-consigned inventory on one order.

The value defined here is used on new orders only if the system does not find a more specific match in Ship-To/Item Controls Maintenance.

Consignment Location. Enter the location representing consigned inventory that resides at a customer facility.

In-Transit Location. Optionally enter the location that represents consigned inventory that is in-transit between you and your customer.

When you enter a value for a consigned location but not for an in-transit location, inventory ready for shipping is transferred from the inventory location directly to the location representing the customer facility.

When you enter an in-transit value, inventory is transferred from the inventory stocking location to the in-transit location. Enter only valid locations set up in Location Maintenance (1.1.18).

Important Assign in-transit and consignment locations an inventory status code with Nettable set to No. Otherwise, MRP considers items in these locations as available to net against open requirements. This understates real demand. Do not use locations defined for customer reserved inventory since this may prevent shipping from occurring.

Maximum Aging Days. Enter the maximum number of days consigned inventory is allowed to be in-transit to a customer facility or remain there after shipment.

The default value is 0 (zero), which indicates there is no scheduled aging deadline.

See “Managing Aged Inventory” on page 247.

Automatic Replenishment. Indicate whether a planned replacement line is automatically added to the active required ship schedule based on the last quantity consumed. This option is for customer scheduled orders only.

No: A replenishment line is not added to the required ship schedule. New schedules are determined by using Required Ship Schedule Update (7.5.3).

Yes: A replenishment order is automatically generated when items are consumed. The replenishment line is added to the next open date on the schedule for a quantity matching the quantity consumed.

Set Up Consignment Accounts

Use three programs to identify accounts used to track customer consignment inventory:

- Domain/Account Control (36.9.24)
- Product Line Maintenance (1.2.1)
- Inventory Account Maintenance (1.2.13)

Create accounts first in Account Create (25.3.13.1). Use Domain/Account Control to set up defaults. Codes entered in Domain/Account Control default to Product Line Maintenance. Product Line Maintenance accounts default to Inventory Account Maintenance (1.2.13). The SO consignment accounts must be of GL type inventory control.

Note One of the Consignment Inventory modules must be active to access the Consignment Accounts frame. See page 225.

Fig. 8.5
Domain/Account Control (36.9.24)

Customer Consignment Inventory module fields

Consignment Accounts		
SO Consigned In-Transit Acct:	9901	
SO Consigned Inventory Acct:	9902	
SO Consigned Offset Acct:	9903	
PO Consigned Inventory Acct:		
PO Consigned Offset Acct:		

SO Consigned In-Transit Acct. Enter the general ledger (GL) account, sub-account, and cost center codes used to track consigned inventory that is in-transit to the customer.

SO Consigned Inventory Acct. Enter the GL account, sub-account, and cost center codes used to track consigned inventory that has been shipped and resides at the customer facility.

Note If you want to reflect the shipment of consigned inventory in your Inventory account, set the offset account to the Inventory account.

SO Consigned Offset Acct. Enter the GL account, sub-account, and cost center codes used to track deferred receivable amounts for consigned shipments.

The SO Consigned Inventory and SO Consigned Offset accounts are updated simultaneously to record consigned activity and do not affect the balance sheet. The Inventory account is not updated until inventory is used by the customer.

See “Invoicing Consigned Shipments” on page 250.

The remaining account fields in this frame are used by the Supplier Consignment Inventory module.

See “Set Up Consignment Accounts” in the Supplier Consignment Inventory chapter of *User Guide: QAD Purchasing*.

Set Up Product Line and Inventory Detail Accounts

Use Product Line Maintenance (1.2.1) to tailor consignment accounts for items that belong to a particular product line. If you do not define specific product line accounts, the system uses the default GL accounts from Domain/Account Control.

Optionally use Inventory Account Maintenance (1.2.13) to further define GL accounts designated for consignment. By setting up accounts for combinations of product line, site, and location, you can separately track accounts for multiple sites or multiple locations within a site.

Inventory detail accounts default from Product Line Maintenance. Often, these are used to associate cost centers with different sites and locations.

Create Inventory Locations

Use Location Maintenance (1.1.18) to create one or more consignment locations that represent areas at customer facilities. Assign these locations to ship-to addresses or combinations of addresses and items in Ship-To/Item Controls Maintenance (7.18.1). These values in turn default to orders shipped to the specified address. If you define locations with the same codes as the corresponding ship-to addresses, the location is easily identifiable.

When orders are shipped, the system transfers inventory to the location representing the customer.

Specify an inventory status code that matches the way consigned inventory is viewed by the system.

Specify Inventory Status Codes

Use Inventory Status Code Maintenance (1.1.1) to create and modify inventory status codes for the locations you plan to use to store consigned inventory. It is recommended that you define a status code with the Available, Nettable, and Overissue fields set to No. When you create a consigned sales order line and enter a consigned or in-transit location, the system checks the inventory status code. If the status code for the location is available or nettable, a warning displays and the system prompts you to continue.

Available. When this is No, inventory is not available for allocation to sales orders. For inventory residing at a location that represents the customer facility, setting available to No prevents the allocation process from selecting that quantity for a different sales order.

Nettable. Setting nettable to No prevents MRP planning logic from including that quantity as inventory on hand.

Overissue. Setting overissue to No prevents the inventory balance from being negative.

Restricted Transactions. Inventory status codes can prevent particular transactions from occurring. For example, you can create restricted transactions for consigned inventory to prevent it from being included in a cycle count or unplanned issues/receipts.

See *User Guide: QAD Master Data* for more information on inventory status codes.

Create Control Records for Specific Ship-To/Item Combinations

Use Ship-To/Item Controls Maintenance (7.18.1) to define specific default values for combinations of ship-to addresses and item numbers. The values entered here override the settings in Customer Consignment Control. When new orders are created for a specific ship-to address, the system looks for the most specific record first to determine the defaults to use.

With the exception of Ship-To and Item Number, field values in Ship-To/Item Controls Maintenance default from corresponding fields in Customer Consignment Control (7.18.24). Field descriptions in Customer Consignment Control also apply to the fields in this program.

See page 225 for details.

Fig. 8.6
Ship-To/Item Controls Maintenance (7.18.1)

Ship-To. Enter the customer ship-to address that uniquely identifies this control record.

This is a required field. Associated control values apply to this ship-to only.

You must enter a valid address with a list type of customer or ship-to.

Item Number. Optionally enter an item number to use as part of the unique identifier for this control record. This item number represents the consigned item being shipped to the customer. When you enter an item number, this control record applies to sales order lines for this item only.

Items must be previously defined in Item Master Maintenance (1.4.1).

The default is blank. When left blank, this control record applies to all items for the associated ship-to without a specific control record.

Managing Consigned Inventory

Key management functions of the Customer Consignment Inventory module:

- Manage inventory quantities.
- Provide inventory valuation and update accounts.
- Defer AR transactions until consumption.

When you activate the Customer Consignment Inventory module and begin shipping, consigned inventory ownership, location, quantities, age, use, invoicing, and payment is automatically tracked.

The system does this by first identifying which sales order lines are consignment lines. The system then treats the shipment of consignment line items as an internal transfer of inventory to a predefined location.

The inventory within this location references the shipper ID in the sales order line if shippers are used. From here, inventory is visible for usage and aging analysis. Usage signals from the customer draw from the consignment balance in first-in, first-out (FIFO) order.

Creating Inventory Transaction History

Every inventory transaction creates a record in inventory transaction history. Each record has a unique, sequential transaction number and a transaction type. Transactions include the following information:

- Transaction data

- Inventory data
- Cost data
- GL transaction data
- User ID of the person entering the transaction

Customer Consignment Inventory Transaction Types

The transaction type code identifies the function used to initiate the inventory change. Table 8.2 lists the customer consignment transaction type codes included in inventory history records with a brief description of each type and the programs that create the transactions.

Table 8.2
Consignment Transaction Types

Transaction Type	Menu Number	Program that Creates the Transaction/Description
CN-ISSTR/CN-RCTTR	7.18.7	Consignment Inventory Transfer Transfers inventory between locations at a site.
ISS-SO, CN-USE	7.18.10	Aging Inventory Update Instead of extending the aging date of consigned inventory, enter Yes in the Use field to indicate its consumption. Initiates ISS-SO and subsequent invoicing.
	7.18.13	Inventory Usage Create Indicates consumption and initiates ISS-SO and subsequent invoicing.
	7.18.14	Authorization Usage Create Indicates consumption of consigned inventory shipped based on scheduled orders referencing customer authorization. Initiates ISS-SO and subsequent invoicing.
	7.18.15	Sequenced Usage Create Indicates consumption of consigned inventory shipped based on scheduled orders referencing customer sequences. Initiates ISS-SO and subsequent invoicing.
	7.18.22	Usage Create Undo Reverses the movement of inventory out of a consigned location. Reverses GL transactions created at original usage creation.
CN-ADJ	7.18.25.1	Consignment Inventory Adjustment Adjusts balances of consigned inventory at selected locations. Debits SO Consigned Inventory or SO Consigned In-Transit accounts and credits the SO Consigned Offset account. Negative adjustments credit SO Consigned Inventory and debit SO Consigned Offset accounts.

Transaction Type	Menu Number	Program that Creates the Transaction/Description
ISS-UNP, CN-USE	3.7	Issues – Unplanned Adjusts balances for negative quantities only.
ISS-TR, RCT-TR CN-SHIP	7.9.5	Pre-Shipper/Shipper Confirm Ships inventory to a consigned location.
	7.9.15	Sales Order Shipment Ships inventory to a consigned location.
	7.9.21	Shipper Unconfirm Unconfirms an inventory shipment to a consigned location.
CYC-CNT CN-CNT (negative only)	3.13.2	Cycle Count Results Entry Makes adjustments to consigned inventory balances.
	3.16.21	Inventory Balance Update Changes consigned inventory balances. Updates tags.
TAG-CNT CN-CNT	3.16.11	Tag Count Entry Makes adjustments to consigned inventory balances. Also creates CN-CNT.
CYC-RCNT CN-CNT	3.16.12	Tag Recount Entry Makes adjustments to consigned inventory balances. Also creates CN-CNT. See Table 8.3 on page 250.

Reviewing Transaction History

Use Transactions Detail Inquiry (3.21.1) to display detailed inventory transaction history records sorted by transaction number. Enter the transaction number to display all the information about that transaction.

Figure 8.7 shows the details about transaction 935.

Fig. 8.7
Consigned Inventory Transactions in Transactions Detail Inquiry (3.21.1)

Transactions Detail Inquiry

Transactions Detail Inquiry: Go To ACTIONS

Transaction: 935 Output:

Tran Nbr: 935 Order: SO232 132

Trans Type: CN-SHIP Revision: 0

Date: 04/26/2007 Item Number: TT-500L

Time: 07:10 Description: L-model wire clip

Effective Date: 04/26/2007 Unit of Measure: EA

Remarks: 934 Address: 1002AB

User ID: mat Name: Quality Products Div

Program: rcsois.p SO/Job: SO232

Currency: USD Ship Type:

Qty Change: 0.0 Price: 1.50

Shipper Number: SH24 Inv Mov: test

Ship Date: 04/26/2007

Numbers of associated transactions

When consigned inventory is used, multiple inventory transactions are processed and corresponding transaction history records created. For the consigned transaction, the system records the number of the standard transaction initiating it in the Remarks field.

In Figure 8.7 showing transaction 935, the number 934 in the Remarks field reflects the standard RCT-TR transaction that initiated the consignment CN-SHIP transaction. For transaction 934, the Remarks field contains the word Consigned, to indicate the type of inventory involved in the transaction.

Ordering Consigned Inventory

When the Customer Consignment Inventory module is active, additional fields and frames display for user input during order entry in:

- Sales Order Maintenance (7.1.1)
- Customer Scheduled Order Maintenance (7.3.13)

In both sales order and scheduled order programs, a hierarchical approach is used to retrieve previously entered default data that applies to specific customers and items.

- When entering a new order, the system uses default values for the ship-to address defined in Ship-To/Item Controls Maintenance. If a record does not exist for the ship-to address and a blank item, the system uses defaults defined in Customer Consignment Control.
- At the sales order line, the system first uses defaults defined in Ship-to/Item Controls Maintenance for the order ship-to and line item. If a record does not exist, values default from the order header.

Sales Order Maintenance

Figure 8.8 shows the Consignment field in the sales order header.

Fig. 8.8
Consignment Field in Sales Order Maintenance Header (7.1.1)

The screenshot shows the 'Sales Order Maintenance' window for Sales Order: SO232. The window is divided into several sections: Header, Sold-To, Ship-To, and Freight Data. The Header section displays Order: SO232, Sold-To: 1002AB, Bill To: 1002AB, and Ship-To: 1002AB. The Sold-To and Ship-To sections show the address for Quality Products Div 1000, Distribution Division, One World Way, Morristown, NJ 07960, X United States. The Freight Data section contains various fields for freight calculation and consignment. The 'Consignment' checkbox is checked, and a callout points to it with the text 'Enter Yes if items are consigned.'

Header			
Order: SO232	Sold-To: 1002AB	Bill To: 1002AB	Ship-To: 1002AB

Sold-To		Ship-To	
Quality Products Div 1000		Quality Products Div 1000	
Distribution Division		Distribution Division	
One World Way		One World Way	
Morristown, NJ 07960		Morristown, NJ 07960	
X United States		X United States	

Freight Data			
Salesperson 1: []	Freight List: []	Consignment: ☒	
Multiple: ☐	Frt Min Wgt: 0	Consume Forecast: ☒	
Commission 1: 0.00%	Freight Terms: []	Detail Allocations: ☐	
	Calculate Freight: ☒	Allocate Days: 1	
	Display Weights: ☒	Comments: []	
	Entered By: mat	Import/Export: ☐	

Consignment. Enter Yes if items on this sales order are consigned. This value defaults from Ship-To/Item Controls Maintenance, if used. If not used, the value defaults from Customer Consignment Control.

Enter No if the most items on this sales order are non-consigned. You can designate individual items as consigned in the Consignment Order Line Item Data frame that displays later during order entry.

Figure 8.9 shows the Consignment Order Data frame that displays when Consignment is set to Yes.

Fig. 8.9
Consignment Order Data Frame in Sales Order Maintenance Header

The screenshot shows the 'Sales Order Maintenance' window for Sales Order SO232. The 'Header' section displays 'Order: SO232', 'Sold-To: 1002AB', 'Bill To: 1002AB', and 'Ship-To: 1002AB'. Below this, the 'Sold-To' and 'Ship-To' sections show the address: 'Quality Products Div 1000', 'Distribution Division', 'One World Way', 'Morristown, NJ 07960', and 'X United States'. The 'Consignment Order Data' section at the bottom contains three fields: 'Consignment Location' with the value '1000C', 'In-Transit Location' (empty), and 'Maximum Aging Days' with the value '30'.

Consignment Location. Enter the location representing consigned inventory that resides at the customer facility. This value defaults from Ship-To/Item Controls Maintenance, if used. If not used, the value defaults from Customer Consignment Control.

In-Transit Location. Optionally enter the location that represents consigned inventory that is in-transit between you and your customer. When you enter a value for a consignment location but not for an in-transit location, inventory ready for shipping is transferred from the inventory location directly to the consignment location.

When you enter an in-transit value, inventory is transferred from the stock inventory location to the in-transit location. Enter only valid locations set up in Location Maintenance. The in-transit location defaults from Ship-To/Item Controls Maintenance, if used. If not used, the value defaults from Customer Consignment Control.

Important Assign in-transit locations an inventory status code with Nettable set to No. Otherwise, MRP will consider supply in that location twice: once for the scheduled receipt and again for the nettable quantity in the location.

Maximum Aging Days. Optionally enter the maximum number of days consigned inventory is allowed to reside at or be in-transit to the customer facility. Enter 0 (zero) if there is no deadline.

This value defaults from Ship-To/Item Controls Maintenance, if used. If not used, the value defaults from Customer Consignment Control.

See “Managing Aged Inventory” on page 247.

When you need to enter a sales order with only a few consigned items, proceed through the sales order screens to the sales order line frames as shown in Figure 8.10.

Fig. 8.10
Consignment Line Item Pop-Up in Sales Order Maintenance

The screenshot shows the 'Sales Order Maintenance' window for Sales Order: SO232. The 'Consignment Order Line Item Data' frame is open, displaying the following fields:

Ln	Item Number	Qty Ordered	UM	List Price	Discount	Net Price
1	TT-500	1,000.0	EA	1.00	0.0	1.00

Below the table, the 'Consignment Order Line Item Data' frame contains the following fields:

- Consignment Location: 1002AB-C
- In-Transit Location:
- Maximum Aging Days: 30

Set the Consignment detail field to Yes for order lines with consigned items. Other items on the sales order remain non-consigned.

The Consignment Order Line Item Data frame lets you optionally update consignment values that apply only to this item.

Fig. 8.11
Consignment Order Line Item Data in Sales Order Maintenance

The screenshot shows the 'Sales Order Maintenance' window for Sales Order: SO232. The 'Consignment Order Line Item Data' frame is open, displaying the following fields:

Ln	Item Number	Qty Ordered	UM	List Price	Discount	Net Price
1	TT-500	1,000.0	EA	1.00	0.0	1.00

Below the table, the 'Line Details' frame contains the following fields:

- Desc: Standard wire clip
- Loc: USD
- Cost: 0.00
- Lot/Serial:
- Qty Allocated: 1,000.0
- Qty Picked: 0.0
- Qty Shipped: 0.0
- Qty to Invoice: 0.0
- Salesperson 1:
- Commission 1: 0.00%
- Sales Acct: 3000
- Site: 10000
- Consignment: ☒
- Promised:
- Due Date: 04/26/2007
- Perform Date:
- Pricing Date: 04/25/2007
- Multiple: ☐
- Category:
- Fixed Price: ☒
- Credit Terms Int: 0.00
- Ship Type:
- UM Conversion: 1.0000
- Consume Fcst: ☒
- Detail Alloc: ☐
- Taxable: ☐
- Freight List:
- Comments: ☐

Customer Scheduled Order Maintenance

To order consigned inventory on a scheduled sales order, use Customer Scheduled Order Maintenance (7.3.13).

Fig. 8.12

Consignment Field in Customer Scheduled Order Maintenance Header (7.3.13)

Enter Yes to create consigned scheduled orders.

Enter the ship-from and ship-to information that apply to the entire scheduled order.

The Consignment field in the Order Data frame functions the same way as the field in Sales Order Maintenance.

Fig. 8.13

Consignment Order Data Frame in Customer Scheduled Order Maintenance Header

The first three fields in the Consignment Order Data frame function the same way as those fields in Sales Order Maintenance. Automatic Replenishment is an additional field that applies only to scheduled orders.

Automatic Replenishment. Indicate whether a planned replacement line is automatically added to the active required ship schedule based on the last quantity consumed.

Yes: A replenishment order is automatically generated when consigned items are consumed. The replenishment line is added to the next open date on the schedule for a quantity matching the quantity consumed.

No: A replenishment line is not added to the required ship schedule. New schedules are determined by using Required Ship Schedule Update (7.5.3).

See “Sales Order Maintenance” on page 232.

You can indicate for each line whether it is consigned. If it is, the Consignment Order Line Item Data frame displays for input of line-item values. This contains the same fields as those illustrated in Figure 8.13.

Shipping Consigned Inventory

Inventory is allocated (reserved) to a sales order either by general or detail allocations.

Shipping consigned inventory uses the same process as shipping non-consigned inventory. Inventory is allocated to an order either by general or detail allocations. Shippers can be created or standard sales order shipments can be used. The difference between shipping consigned and non-consigned inventory is in the booking of transaction history and accounting.

Non-consigned items are shipped to the customer using the traditional ISS-SO inventory transaction. Shipping an order updates the quantity available to invoice.

In contrast, you own consigned inventory until the customer notifies you that it is consumed. To defer the transfer of ownership, the shipment is considered an inventory transfer and uses consigned transaction types.

Instead of an ISS-SO, a consigned shipment generates the following transactions:

- ISS-TR for transfers out of the stocking location
- RCT-TR for transfers into the consigned location
- CN-SHIP for consigned shipments

As shipments are made, the system transfers specified quantities, updates the sales order, and increases cumulative shipped quantities, thereby reducing MRP requirements and increasing the corresponding physical inventory accounts. Because the system updates cumulative quantities at the time of shipment, it ensures that your customer schedule correctly represents what has been shipped.

If your company uses standard allocations and shipping, use Sales Order Shipments (7.9.15) to process shipments against open sales orders. These can be positive or negative amounts.

See “Processing Returns, Rejects, and Corrections” on page 245.

If your company uses shippers, use Picklist/Pre-Shipper Automatic (7.9.1) to create a picklist that selects and ships inventory. When needed, you can edit the order line details before items are added to a picklist/pre-shipper. Use Pre-Shipper/Shipper Confirm (7.9.5) to generate shipment transactions. The system optionally generates an electronic ASN that can be exported to the customer using EDI eCommerce.

Making Inventory Transfers and Adjustments

You can make inventory transfers either manually or through importing EDI eCommerce transactions.

Consignment Inventory Transfer

Use Consignment Inventory Transfer (7.18.7) to manually select inventory for transfer (CN-ISSTR/CN-RCTTR). For example, this program lets you move only in-transit inventory to a consigned location. If you need to move inventory from one location to another, use this program to retain the consigned status of the inventory.

Use this program when you receive an acknowledgment that the consigned inventory has arrived at the customer facility. For example, you can use this program when you need to manually show an inventory transfer from a third-party distribution warehouse to a customer facility.

A transfer represents the movement, not use, of inventory. It reduces inventory quantity for items at a designated site and location and increases it at another.

Fig. 8.14
Consignment Inventory Transfer (7.18.7)

Enter criteria for selecting consigned inventory to transfer. You must enter either a ship-to or sold-to address. You can enter a range of sites, items, customer POs, sales orders, and ship dates.

Transfer Location. Enter the new location where you want to transfer the in-transit or consigned inventory. This value sets the default for all items selected for transfer. You can change this for individual records, as needed.

If this location does not exist at the site containing the transfer-from location, the system creates it automatically or displays an error message, depending on the setting of Automatic Locations at the current site. If this is No for the site, the location must be predefined using Location Maintenance.

Fig. 8.15
Cross Reference and From Location Details Frames in Consignment Inventory Transfer

ID	Item	Order	Line	Ship Date	New Location
1	TT-500	SO232	1	04/26/2007	
2	TT-500L	SO232	2	04/26/2007	
3	20001a	SO232	3	04/26/2007	

From Location Details

ID: 1 Ship-To: 1002AB Order: SO232 1
 Item: TT-500 Site: 10000 Location: 1002AB-C
 Quantity: 1,000.0 EA Lot/Serial: EA Ref: EA
 Cust PO: Inventory Status: Consign

The system displays cross-reference and from location details for the records that match your selection criteria. Choose the record you want to modify. You can specify a new location, quantity to transfer, and GL effective date in the To Location Details frame.

Fig. 8.16
From and To Location Details in Consignment Inventory Transfer

The screenshot shows the 'Consignment Inventory Transfer' window. At the top, it says 'Sold-To: 1002AB' and 'Ship-To:'. Below this is the 'To Location Details' section with fields for 'New Location: DOCK100', 'Quantity: 1,000.0', 'Effective: 04/26/2007', 'Lot/Serial: EA', and 'Inventory Status:'. The 'From Location Details' section below it shows 'ID: 1', 'Item: TT-500', 'Quantity: 1,000.0', 'Cust PO:', 'Ship-To: 1002AB', 'Site: 10000', 'Lot/Serial:', 'Order: SO232 1', 'Location: 1002AB-C', 'Ref:', and 'Inventory Status: Consign'.

New Location. Enter the new location where you want to transfer the in-transit or consigned inventory. This field defaults from the first frame if you specified a transfer location.

Quantity. Enter the quantity of the item to be transferred to the new location.

Effective Date. Enter the GL effective date for this transaction. The default is the system date. The effective date determines when this transaction affects GL balances.

If Verify GL Accounts is Yes in Domain/Account Control, the system checks that the transaction effective date is within an open fiscal period.

Fig. 8.17
Status Conflict Message in Consignment Inventory Transfer

This screenshot is similar to Fig. 8.16 but includes a modal dialog box in the center. The dialog box has a blue header bar and contains the text 'Status conflict. Use 'to' status' with 'yes' and 'no' buttons at the bottom. The background window is dimmed.

When the inventory status of the items being transferred differs from the default inventory status at the transfer-to location, the system prompts you to change the inventory status of the transferred items.

- Respond Yes to have the items automatically assume the default inventory status of the transfer-to location.
- Respond No to have items retain their current inventory status.

When you have finished specifying details, press End. A summary frame displays the items about to be transferred. When prompted, enter Yes to complete the update.

Imported EDI Messages

When inventory arrives at the customer receiving dock, some customers send an acknowledgment of receipt in electronic data interchange (EDI) format. Using Document Import (35.1) to import an acknowledgment message has the same effect as manually transferring the consigned inventory. It signals the movement of inventory from the in-transit location to the consignment location identified on the sales order line. No transfer of ownership occurs while the inventory is in-transit or when it is received.

See *User Guide: QAD EDI eCommerce* for information.

Consignment Inventory Adjustment

Use Consignment Inventory Adjustment (7.18.25.1) to manually modify consigned inventory information such as quantities and locations. Adjustment generates records of type CN-ADJ to record consignment adjustment.

Order and line are required. The system validates that the items on the order line were consigned. A warning displays if non-consigned items exist in the location specified.

Fig. 8.18
Consignment Inventory Adjustment (7.18.25.1)

The screenshot shows a software window titled "Consignment Inventory Adj...". Inside, there's a header bar with "Consignment Inventory Adjustment:" followed by "Go To" and a dropdown arrow, and "ACTIONS" with a dropdown arrow. The main area contains several input fields and labels arranged in two columns. The left column includes: "Item Number: TT-500", "Description: Standard wire clip", "Quantity: 250" (with a text box), "Unit of Measure: EA" (with a dropdown arrow), "Conversion: 1.0000" (with a text box), "Unit Cost:", "Order:", "Line:", "Remarks:", "Project:", and "Effective Date:". The right column includes: "Lot/Serial Control:", "UM: EA", "Site: 10000" (with a magnifying glass icon), "Location: 1002AB-C" (with a magnifying glass icon), "Lot/Serial:" (with a magnifying glass icon), "Reference:" (with a magnifying glass icon), "Multi Entry:" (with a checkbox), "Total Qty:", "Total Cost:", "DR Acct:", and "Cr Acct:".

You might use this program after doing a physical inventory to indicate that surplus items are consigned. In this case, the customer would not be invoiced for the adjustment transaction.

You can select inventory by serial number, reference number, sequence number, or authorization. For example, you can debit an in-transit account and credit a consigned offset (consumption) account.

See “Tracking Consigned Inventory During Inventory Counts” on page 248.

Note Consignment Inventory Adjustment is designed only to update the consignment quantity. It does not make any changes to the quantity on hand. This can lead to possible discrepancies between inventory valuation reports and the inventory GL balance. You should make appropriate adjustments to quantity-on-hand balances, as needed.

Using Customer Consigned Inventory

You can designate inventory as consumed either by transferring ownership using a manual option or by importing EDI eCommerce transactions.

Four programs let you manually register usage of consigned materials: Inventory Usage Create (7.18.13), Authorization Usage Create (7.18.14), Shipper Usage Create (7.18.19), or Sequenced Usage Create (7.18.15).

Note You can also register inventory usage in Aging Inventory Update (7.18.10). See “Managing Aged Inventory” on page 247.

Use these programs to:

- Indicate usage of customer-consigned inventory.
- Transfer ownership of inventory to the customer.
- Issue items on sales orders or scheduled orders and prepare for invoicing.
- Update GL accounts.
- Automatically post invoices based on default setup.

Oldest shipments are consumed first, unless you specify inventory selection details such as batch, lot/serial, or reference numbers.

When you manually designate inventory as used, the system reduces the quantity available in the consigned location and books the amount as a sale.

Entering a consumed quantity that is more than the available quantity generates a warning message. The system reduces (CN-USE) the consumed quantity and shows a negative quantity in the consigned location.

See page 251 for invoicing details.

Important Do not use these four programs to return inventory because they select only available quantity.

If you have previously consumed all available quantity, usage transactions will never select the order line because the available quantity is zero (0). You can correct previous usage data, but only if available quantity remains.

In an EDI environment, you can import the customer’s consumption information in EDI messages using Document Import (35.1) instead of entering it manually. In this case, the import gateway triggers consignment usage (CN-USE) and a sales order issue (ISS-SO) transaction.

If you have already created usage records manually for the same orders, the system marks them so that when the customer reports that the inventory is used or consumed in an EDI message, the system recognizes that it has already been booked once, and it does not book it again.

See “Processing Returns, Rejects, and Corrections” on page 245.

GL Effects of Usage

Consuming consigned inventory (CN-USE) has the following GL effects:

- Credits SO Consigned Inventory or SO Consigned In-Transit account, depending on the location where the consigned inventory resides. These accounts are defined in Inventory Account Maintenance (1.2.13).
- Debits the SO Consigned Offset account.

Issuing the items as a sale (ISS-SO) has the following GL effects:

- Credits the Inventory account defined in Inventory Account Maintenance (1.2.13) for the product line, shipment site, and location.
- Debits the COGS Material, COGS Burden, COGS Labor, COGS Overhead, and COGS Subcontract accounts defined in Sales Account Maintenance (1.2.17) for the product line, shipment site, sales channel, and customer type.

Note If Sum LL Costs Into Matl Cost is Yes in Inventory Accounting Control (36.9.2), all lower level manufacturing costs are posted to the COGS Material account.

GL transactions are stored in the unposted transaction table until they are posted. Review unposted transactions with Unposted Transaction Inquiry (25.13.13). The GL reference begins with IC.

Inventory Usage Create

Use Inventory Usage Create (7.18.13) to manually enter consumption data for sales orders and scheduled orders that do not reference a shipping authorization number or a sequence number.

Fig. 8.19
Inventory Usage Create (7.18.13)

Ship-To. This is a required field unless you enter a Sold-To. Enter the ship-to address of the record you want to update.

Sold-To. This is a required field unless you enter a Ship-To. Enter the sold-to address of the record you want to update.

Effective Date. Enter the effective date of this transaction.

Consume All. Enter Yes or No to indicate whether you want to consume all the shipments that are listed. If you enter Yes, all items in the selection results are marked for processing.

Sort By. Specify the sequence in which information is to display:

- Customer item and PO

- Item and sales order
- PO and customer item
- Sales order and item

The Customer Usage Data frame displays.

Fig. 8.20

Inventory Usage Create, Customer Usage Data Frame

Customer Usage Reference. Enter the customer usage reference number assigned to this transaction. This number is typically provided by the customer when using EDI.

Self-Bill Authorization. Enter the self-billing authorization number assigned to this transaction. This number is typically provided by the customer and refers to their payment number.

Date. Enter the date the customer consumed the inventory.

When you press Go, the system displays consigned inventory that matches your selection criteria.

Fig. 8.21

Inventory Usage Create, Consignment Selection and Details Frames

Item Number	Order	Line	Qty on Hand	UM	Usage Qty	UM	Location
20001a	SO232	3	100.0	EA	0.0	EA	1002AB-C
TT-500	matcon-1	1	50.0	EA	0.0	EA	1002AB-C
TT-500	SO232	1	1,000.0	EA	0.0	EA	1002AB-C
TT-500L	SO232	2	200.0	EA	0.0	EA	1002AB-C

In the Consignment Selection frame, select items and quantities you want to designate as consumed. You can select multiple items. In the Consignment Details frame, specify the quantity, lot/serial number, and reference number.

Authorization Usage Create

Use Authorization Usage Create (7.18.14) to manually consume consigned inventory on scheduled orders that are referenced by their customer shipping authorization number. This number is typically provided by the customer when you import schedules using EDI eCommerce.

See *User Guide: QAD EDI eCommerce*.

Fig. 8.22
Authorization Usage Create (7.18.14)

Other authorization numbers can be provided by the customer including a customer job number or customer reference number.

Sort By. Specify the sequence in which information is to display:

- Authorization and item
- Customer PO and item
- Item and authorization
- Shipper and item

Shipper Usage Create

Use Shipper Usage Create (7.18.19) to manually consume inventory by shipper number, for example when multiple scheduled orders have the same item numbers.

Fig. 8.23
Shipper Usage Create (7.18.19)

Shipper. Enter a range of shipper numbers for selecting inventory to update.

Sort By. Specify the sequence in which information is to display:

- Shipper and item
- Item and authorization
- Customer PO and item
- Authorization and item

Sequenced Usage Create

Use Sequenced Usage Create (7.18.15) to manually consume inventory on scheduled orders that include sequence data. The sequence number is typically provided by the customer when you import schedules using EDI eCommerce.

Note Customer sequence numbers are available only if you use the Customer Sequence Schedules module in the Scheduled Order Management package.

Fig. 8.24
Sequenced Usage Create (7.18.15)

Sort By. Specify the sequence in which information is to display:

- Customer job and sequence
- Customer item and PO
- PO and customer reference
- PO and customer item

Usage Create Undo

If you make a mistake when entering consumption data, use Usage Create Undo (7.18.22) to reverse a transaction. This program creates the same transactions as Inventory Usage Create, but with negative quantities.

Fig. 8.25
Usage Create Undo (7.18.22)

Usage Create Undo

Usage Create Undo: Go To ACTIONS

Ship-To: 1002AB
Sold-To: 1002AB
Batch ID: 2
Effective Date: 04/26/2007

Quality Products Div 1000

Display items being issued

yes no

The system-assigned batch number is required.

All batch numbers are assigned by the system when consigned inventory usage is processed, either by importing EDI data or manually. A batch number is assigned to each execution of an inventory transaction. A complete record of batch numbers is maintained in the system. You can view batch numbers by running any of the consignment usage reports, such as Inventory Usage Report (7.18.4.13).

Note If one sales order line in the batch no longer exists (for example, when auto invoice has posted it), the entire batch cannot be processed.

You are prompted to display the items and quantities included in the specified batch. If you select No, the system prompts you to continue the undo process. Otherwise, it displays an additional frame for your review, then prompts you to continue

Fig. 8.26
Usage Create Undo, Item Display Frame

Usage Create Undo

Usage Create Undo: Go To ACTIONS

Item Number	Location	Lot/Serial	GL Ref	Quantity	UM
TT-500				-100.0	EA

Processing Returns, Rejects, and Corrections

Because consigned inventory is not invoiced until consumed, returns to stock need to occur without processing a credit invoice. Excess consigned inventory, returns, or rejects are processed using shipments with negative quantities.

Create shipments with negative quantities to process the correction or return of consigned inventory in the following cases:

- From a consigned location to an in-transit location
- From an in-transit location to stock
- From a consigned location to stock

The system determines how to process a negative shipment quantity based on your responses to prompts during shipment creation. It creates transactions and references the transaction history during inventory confirmation.

Enter a negative shipment quantity when you want to do one of the following:

- Correction
- Return-to-stores of consigned inventory
- Customer credit

When you create shipments, shippers, pre-shippers, and containers with a negative quantity, the following message displays:

WARNING: Negative quantity entered for a Consigned Line Item.
Are you correcting an earlier shipment?

At the prompt, indicate whether your shipment is a correction to an earlier shipment.

When you enter No, the system displays a second prompt:

Are you returning material from a consignment location?

When you answer Yes to either of the first two prompts—for either a correction or a return—the system returns the inventory to its former consignment location.

When you enter No to the second prompt, the system displays the following message:

Customer will be credited for quantity returned.

When you answer Yes to either of the first two prompts—for either a correction or a return—the system creates ISS-TR, ISS-RCT, and CN-SHIP transaction history records, and returns the material to stock.

When a negative shipment is not identified as a return or a correction, the system creates a credit invoice to the customer for the negative quantity using the standard ISS-SO inventory transaction.

When unconfirming a shipper with a negative inventory quantity, the system reverses the transaction. However, inventory transactions produced will be positive quantities.

The following programs process negative shipments:

- SO Container Maintenance (7.7.5)
- Pre-Shipper/Shipper Workbench (7.9.2)
- Pre-Shipper/Shipper Confirm (7.9.5)
- Pre-Shipper/Shipper Auto Confirm (7.9.7)
- Sales Order Shipper Maintenance (7.9.8)
- Sales Order Shipments (7.9.15)
- Shipper Unconfirm (7.9.21)
- Shipper Gateway (7.9.22)
- SO Batch Shipment Processor (7.25.3)

Note If an order line cannot be consigned—for example, with RMAs and material orders—it is not eligible for the negative shipper logic.

Managing Aged Inventory

In the Customer Consignment Inventory module, you can track inventory by ship date or by how long it has been in a consignment location. By assigning maximum aging days to the sales order line, you can:

- Identify inventory that exceeds the set number of days without being consumed.
- Extend the aging date on individual or multiple orders.
- Consume oldest shipments first.
- Consume shipments by sequence number, authorization, cross- reference, or lot/serial number.

When the consigned inventory has not been consumed by the customer and has not been returned, ownership can be transferred to the customer. The transfer of ownership does not occur automatically, however, allowing the supplier and customer to negotiate a compromise.

Note The aging date is separate from the expiration date.

To determine the date that maximum aging occurs, the system uses the following calculation:

$$\text{shipment date} + \text{transit time} + \text{maximum aging days} = \text{maximum aging date}$$

- Shipment date is the date of shipping transactions created in Sales Order Shipments (7.9.15) or Pre-Shipper/Shipper Confirm (7.9.5).
- Transit time is taken from Delivery Transit Time Maintenance (2.16.1). See *User Guide: QAD Master Data* for details.
- Maximum aging days is taken from the consignment sales order line data (7.1.1).

The calculated maximum aging date for each shipment is shown in various aging reports.

Identifying Aged Inventory

Use Aging Inventory Report by Order (7.18.4.7) to determine how long unused inventory on specific orders has been consigned. You can make daily, weekly, or monthly determinations for six financial periods; for example, six calendar weeks.

Fig. 8.27
Aging Inventory Report by Order (7.18.4.7)

Use Aging Inventory Report by Part (7.18.4.8) to identify consigned inventory by item number.

Use Aging Inventory by Order with Sequence (7.18.4.9) to identify consigned quantities on scheduled orders that include sequence numbers.

Extending the Aging Date

Use Aging Inventory Update (7.18.10) to extend the allowed time of consignment by setting a new aging date or adding days to the existing date. You can extend the maximum aging date as many times as required. An extension automatically updates each shipment.

You can also optionally record inventory usage with this program. In this case, the same inventory and GL transactions occur as in other usage programs.

See “GL Effects of Usage” on page 241.

Fig. 8.28
Aging Inventory Update (7.18.10)

Sold-To: 1002AB
Ship-To:

ID	Item	Order	Line	Age Date	New Date	Use
1	TT-500	SO232	1	05/26/2007		
2	TT-500L	SO232	2	06/10/2007		

Max Age Date

ID: 1 Item: TT-500 Order: SO232 Line: 1 Age Date: 05/26/2007 Qty: 1,000.0 Use: EA

Use: ☐ New Age D: 5/30/2007 Days: 0 Effective: 04/26/2007

The values in Aging Inventory Update default from shipment data. You can update these fields in the Max Age Date frame:

Use. Enter Yes to designate this inventory as used. Entering Yes generates a shipment transaction (ISS-SO). The system debits the Cost of Goods Sold (COGS) accounts and credits the Inventory account.

New Date. Enter the new maximum age date you want to assign to this inventory, unless you enter the number of days you want to add to the age date.

Days. If New Date is blank, enter the number of days you want to add to the maximum age date. The system automatically calculates the new date.

See “Using Customer Consigned Inventory” on page 240.

Use Aging Inventory Batch Update (7.18.11) to revise aging dates for a group of sales orders. Aging Inventory Batch Update extends aging dates only; you cannot use it to transfer ownership.

Tracking Consigned Inventory During Inventory Counts

During cycle count and physical inventory count processes, you must determine procedures for managing consigned inventory. Typically, you exclude customer consigned inventory during a count because it is not physically present at your site.

See *User Guide: QAD Master Data* for cycle and physical count procedures.

Various cycle count and physical inventory programs let you manage customer consigned inventory according to your needs. You can count:

- Only consigned inventory
- Only non-consigned inventory

- Both consigned and non-consigned inventory

For example, you can use consignment fields in Cycle Count Worksheet Print (3.13.1) to select inventory to count.

Fig. 8.29
Tracking Consigned Inventory Using Cycle Count Worksheet Print (3.13.1)

Worksheet includes customer consigned inventory.

Similarly, when you use Item Tag Create (3.16.1), you can choose to update tags for only consigned, only non-consigned, or both types of inventory.

Fig. 8.30
Tracking Consigned Inventory Using Item Tag Create (3.16.1)

Tags exclude customer consigned inventory.

When you exclude consigned inventory or include it with non-consigned inventory, any adjustments required by the count affect non-consigned inventory only. If you choose to count consigned inventory only, the system uses special transactions when adjusting inventory downward.

These transactions occur in Cycle Count Results Entry (3.13.2) and Inventory Balance Update (3.16.21).

Downward adjustments to customer consigned inventory create the standard count transaction (CYC-CNT or TAG-CNT) and a CN-CNT transaction. The CN-CNT transaction is used to reverse the inventory effects of the standard transaction. This is followed by an ISS-SO and CN-USE to track the inventory changes and transfer ownership of the material. Whenever the system updates consigned inventory, appropriate updates are also made to corresponding consignment accounts.

The various possibilities are shown in Table 8.3.

Table 8.3
Balancing Consigned Inventory After Cycle or Physical Counts

Option Entered	Results	Action	Transactions
Only consigned	Shortage	Shortage is reduction of consigned inventory.	CYC-CNT or TAG-CNT CN-CNT ISS-SO, CN-USE
	Surplus	Surplus is non-consigned.	CYC-CNT or TAG-CNT
Include consigned and non-consigned	Shortage	Shortage is reduction of non-consigned inventory.	CYC-CNT or TAG-CNT
	Surplus	Surplus is non-consigned.	CYC-CNT or TAG-CNT
Exclude consigned	Shortage	Shortage is reduction of non-consigned inventory.	CYC-CNT or TAG-CNT
	Surplus	Surplus is non-consigned.	CYC-CNT or TAG-CNT

Use Consignment Inventory Adjustment (7.18.25.1) to associate the surplus (non-consigned) inventory to a consignment order if needed.

See “Consignment Inventory Adjustment” on page 239.

Invoicing Consigned Shipments

Using the Customer Consignment Inventory module, invoicing is deferred until some or all of the shipped inventory has been consumed by the customer. An invoice is not created until the customer acknowledges consumption.

Until consumption, GL transactions occur to track the value of inventory during the time it is held in consignment status. The system uses the customer consigned inventory accounts (In-Transit, Consigned, or Offset) specified in Inventory Account Maintenance (1.2.13). If not available there, the system uses the customer consignment accounts specified in Product Line Maintenance (1.2.1).

When an inventory quantity is transferred to a predefined in-transit or consignment location, only shipment-related costs are posted to the corresponding in-transit account or to the consigned inventory account of the ship-from location.

Once a usage transaction (CN-USE, ISS-SO) occurs, a standard invoice for the consumed inventory is available to be posted, printed, and sent to the customer. The system generates invoice numbers. If shipment-related charges have previously been posted and printed, only inventory charges and taxes are shown on the invoice at this time.

See “Set Up Consignment Accounts” on page 226.

Effect of Automatic Invoicing

When you want the system to automatically post an invoice upon processing consumption data, set Auto Invoice to Yes in Cust Sched/Shipper Acct Control (36.9.7).

You can automatically post an invoice without shipment-related charges in Inventory Usage Create (7.18.13), Authorization Usage Create (7.18.14), or Sequenced Usage Create (7.18.15). These use the auto invoice settings in Cust Sched/Shipper Acct Control.

When Auto Invoice is No, you must use the standard invoice post and print functions.

Use Unposted Transaction Register (25.13.14) to verify GL transactions.

Self-Billing

Some customers use self-bills instead of invoices. Self-bills are mapped to open invoices and compared.

Self-bill documents can be imported using EDI eCommerce. The import gateway accepts a customer-supplied payment authorization that can be referenced by a subsequent self-bill payment. This helps AR reconcile the payment with the actual usage record.

See *User Guide: QAD Financials* for more details on self billing.

Reporting Consignment Inventory Data

The system automatically collects consignment inventory data during transactions. The Customer Consignment Inventory module provides several reports for collecting, locating, tracking, and reviewing consigned inventory. These reports are designed to clearly show consigned and shipped inventory data. Consigned inventory data is shown in many standard reports also.

A number of reports and inquiries let you evaluate accounts and track inventory movement from its initial stocking location to customer consumption. Table 8.4 shows reporting tools available in Customer Consignment Inventory and a brief explanation of the data that each provides.

Table 8.4
Reports and Inquiries in the Customer Consignment Inventory Module

Menu	Report	Function/Purpose
7.18.2	Ship-To/Item Controls Report	Displays defaults defined for consigned inventory items and customer ship-to address or a range of customer ship-to addresses.
7.18.4.1	Consignment Inventory Report	Displays consigned inventory items selected by inventory attributes.
7.18.4.2	Consignment Inventory by Loc	Displays selected consigned inventory items sorted by site and location.

Menu	Report	Function/Purpose
7.18.4.3	Consignment Inventory by Order	Displays selected consigned inventory shipments sorted by sales order. Can display with or without quantities and sorted by: (1) Ship-from, customer, ship-to, order, item, PO or (2) Ship-from, item, customer, ship-to, order, PO
7.18.4.4	Consignment by Order with Sequence	Displays selected consigned inventory shipments by sales order and customer sequence. Can display with or without shipment ID and quantities and sorted by: (1) Ship-from, customer, ship-to, order, item, PO or (2) Ship-from, item, customer, ship-to, order, PO
7.18.4.7	Aging Inventory Report by Order	Displays inventory quantities and aging dates by sales order.
7.18.4.8	Aging Inventory by Part	Displays inventory quantities and aging dates by item number.
7.18.4.9	Aging Inv by Order with Seq	Displays inventory quantities and aging dates by scheduled order with sequence numbers.
7.18.4.13	Inventory Usage Report	Displays inventory usage by selected criteria including ship-from, sold-to, ship-to, item, PO, SO, date used, ID, batch number, and customer reference.
7.18.4.14	Authorization Usage Report	Displays inventory usage by selected criteria and shipping authorization.
7.18.4.15	Sequenced Usage Report	Displays inventory usage by selected criteria and schedules order sequence number.
7.18.4.16	Usage Report by Order	Displays inventory usage by selected criteria including batch number and sales order sorted by: (1) Ship-from, customer, ship-to, order, item, PO or (2) Ship-from, item, customer, ship-to, order, PO
7.18.4.17	Usage Report by Order with Seq	Displays inventory usage by selected criteria and scheduled order sequence number.
7.18.16	Usage Inquiry	Displays consumed inventory by batch number. Shows sales order, line, item, quantities, and other data.

Menu	Report	Function/Purpose
7.18.17	Authorization Usage Inquiry	Displays consumed inventory by batch and authorization number. Shows order, line, item, quantities, and other data.
7.18.18	Sequenced Usage Inquiry	Displays consumed inventory by batch and customer sequence number. Shows order, line, item, quantities, and other data.

Standard reporting tools available in Customer Consignment Inventory are shown in Table 8.5, followed by an explanation of the data that each tool provides.

Table 8.5
Standard Reports and Inquiries used in Customer Consignment Inventory

Menu Number	Title	Function/Purpose
3.6.5	Inventory Detail Report	Shows inventory availability. Detail format shows quantities of consigned items. Lists inventory information for site and location.
1.5.21 and 3.6.13	Inventory Valuation Report	Shows the value of inventory in a site by product line or item number. Includes total value of each item and a grand total for the product line. Options to exclude, include, or show only consignment shipments.
1.5.22 and 3.6.14	Inventory Valuation by Location	Shows the value of inventory in each location of a site by product line or item number. Includes total value at each location and a grand total for the site. Options to exclude, include, or show only consigned inventory.
1.5.23 and 3.6.15	Inventory Valuation as of Date	Displays the value of all items in a product line as of a user-specified date. Shows total inventory in each site and a grand total for product line. Options to exclude, include, or show only consignment shipments.
1.5.24 and 3.6.16	Inventory Valuation as of by Loc	Shows the value of inventory in each location of a site on a user-specified date. Shows the total value of each location and a grand total for the site. Options to exclude, include, or show only consignment shipments.
3.21.1	Transaction Detail Inquiry	Displays detailed inventory transaction history records ordered by transaction number. Includes transaction types.
7.3.14	Scheduled Order Inquiry	Shows scheduled sales orders and consignment settings.

Enterprise Material Transfer (EMT)

Enterprise Material Transfer (EMT) enables you to translate sales orders into purchase orders automatically and transmit those purchase orders electronically using EDI eCommerce. EMT supports both standard two-level and multilevel organizations.

Note If you are using the Service/Support Management (SSM) module, you can also use EMT to convert material orders (MOs) to purchase orders.

This chapter covers the following topics:

Enterprise Material Transfer Overview 256

Introduces the concepts and workflow of EMT.

Using Standard EMT 272

Describes the process flow for EMT orders.

Using Multilevel EMT 285

Outlines how to use multilevel EMT and defines multilevel organization.

Communicating EMT Documents with EDI 291

Describes how you can exchange several other types of electronic documents with other business units throughout the life cycle of an EMT sales order.

Enterprise Material Transfer Overview

In traditional MRP, customer purchase orders become sales orders, which then become purchase requisitions after MRP is run. Purchase requisitions become purchase orders, and approved purchase orders are transmitted to the supplier. In some cases the supplier must manually reenter the orders. These steps can waste time, especially when the supplier is the company's own manufacturer or distributor or one with whom the company regularly does business.

You can use Enterprise Material Transfer (EMT) to save time by automating several of these steps—and reducing the wait time between them. With EMT you can:

- Automatically generate purchase orders from sales orders, where appropriate. In the simplest scenario, you can just print the purchase order and mail or fax it to your supplier.
- Automatically export purchase orders using EDI eCommerce. Your supplier then imports the purchase order and converts the PO to its own sales order.
- Automatically generate legal and financial data required for international transactions.
- Modify purchase orders easily. When you update your sales order for an EMT item, the system automatically updates the associated PO. EMT also supports automatic transmission of changes using EDI eCommerce. Suppliers can be changed on individual sales order lines or mass-changed on all existing sales orders. Credit hold status on existing orders can be changed whenever the customer's credit status changes.
- Allocate items directly in real time at a supplier's site in a different domain in the current database.
- Optionally deviate from standard system logic in determining intercompany prices, as specified in the supplier/item record.
- Chose one of two delivery options for EMT items: direct delivery from final supplier to end customer, or transshipment to the business unit that created the original sales order.
- Integrate with standard invoicing. When your EMT supplier provides the items, you can follow the same invoicing procedures you would use for any sales order.
- Generate sales order tracking reports. You can view the transmission status of the purchase orders generated by EMT or the shipping status of items ordered from EMT suppliers.

Note If you use the Service/Support Management (SSM) module, you can also use EMT to support material orders (MOs) for EMT transshipment items. See “Material Orders” on page 260.

Depending on the relationships among the business units involved in EMT transactions, EMT is defined as *standard* EMT or *multilevel* EMT. A *business unit* is any supplier or manufacturer in a supply chain other than the original customer.

Using EMT Across Domains and Databases

Using the Shared Services Domain module, a single database may include more than one active domain. Each domain represents a separate business operation with its own base currency, chart of accounts, and business configuration.

You can use EMT functions between business organizations in one domain, in different domains within the same database, or in different domains in separate QAD databases. The way EMT functions in these various scenarios is basically the same. However, if the related business units are represented by different domains within the same database, it becomes easier to use the direct allocation feature of EMT.

See “Using Direct Allocations” on page 260.

The following list summarizes the scenarios supported for EMT:

- Within a single database where the PBU and SBU are within the same domain.
- Within a single database where the PBU and SBU are in different domains.
- Across multiple databases where the PBU and SBU are in different domains.
- Across multiple databases where the PBU is in a database with domains and the SBU is in a database on an earlier release. In this case, direct allocation cannot be used.
- Across multiple databases where the PBU is in a database without domains (earlier than eB2.1) and the SBU is in a database with domains (eB2.1 or higher). In this case, direct allocation cannot be used.

Note The SBU could also be using a non-QAD system. Direct allocation is not supported in this scenario either, regardless of the PBU’s QAD version.

Standard EMT Overview

Standard EMT includes a simple, two-level relationship between two business units:

- A *primary business unit (PBU)* is responsible for processing the customer’s original purchase order.
- A *secondary business unit (SBU)* is responsible for maintaining secondary sales orders created from the PBU’s purchase order.

A PBU can have multiple SBUs, and SBUs can reside in different countries.

Standard EMT begins at the PBU when you enter a confirmed sales order line for an item that has been set up for EMT processing. Either enter the sales order manually in Sales Order Maintenance (7.1.1) or use EDI eCommerce to import your customer’s purchase order. When the sales order is confirmed, EMT automatically generates the appropriate purchase orders, called *EMT POs*. You then use EDI eCommerce to transmit EMT POs to the supplier.

Note This chapter assumes that you are using a fully automated EMT environment, which is supported by EDI eCommerce.

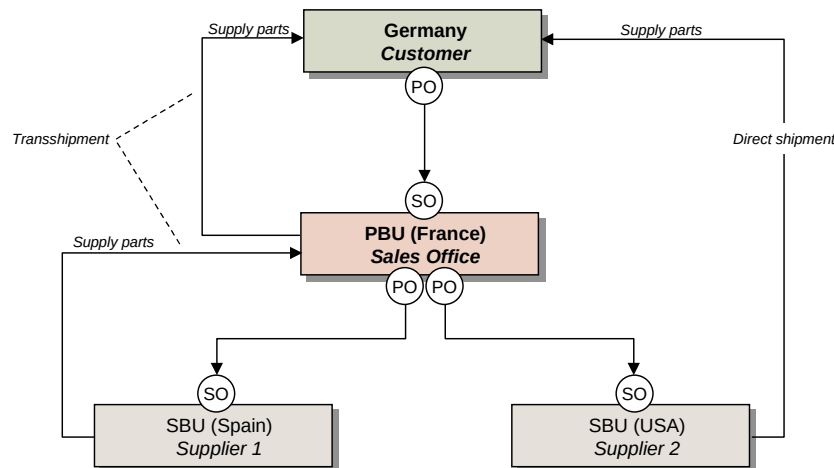
If the supplying SBU site is in a domain in the current database, you can make a *direct allocation*. This is a preliminary allocation of inventory at the SBU site that is automatically converted to a normal allocation when the SBU imports the PBU’s purchase order.

See “Using Direct Allocations” on page 260.

The SBU’s system imports the EMT PO and converts it to a *secondary sales order*. After sending a PO acknowledgment to the PBU, the SBU then uses its standard procedures to fill the sales order by purchasing or manufacturing the items. Based on information provided by the original end customer and the PBU, the SBU can ship EMT sales orders in two ways:

- With *direct shipments*, the SBU is authorized to satisfy a demand directly, bypassing the site that originally received the customer's purchase order. Direct shipment is not available for material orders.
- With *transshipments*, the SBU must satisfy a demand through the PBU, which in turn ships the order to the original customer. The PBU typically adds value such as packaging or testing.

Fig. 9.1
Standard EMT Order Processing Model



The SBU transmits a status change indicating that the order has been picked, shipped, or—in the case of a configured item—released to a work order. Based on control program settings, the PBU may still be able to make changes to its primary sales order after a status change. If the SBU wants to make changes to the promise date or quantity required, it transmits a change request to the PBU, which either accepts or denies the request.

Note The promise date at the SBU is the same as the due date at the PBU.

When the SBU confirms the shipping document to ship the order, the system automatically generates an advance ship notice (ASN) document for transmission to the PBU. When imported, this document creates a purchase order shipper, which can then be received at the PBU.

- For direct shipments, the PBU does not physically receive the merchandise, since the SBU ships it directly to the end customer. Instead, the system creates a receiving inventory transaction then immediately issues the merchandise to the sales order, as though it has been shipped from the PBU. Based on control program settings, the PBU can choose to automatically receive the PO when it imports the ASN without any operator action. The PBU can then create a sales order shipper, issue an ASN to the customer, and invoice the order.
- For transshipments, the SBU ships the merchandise to the PBU. The PBU receives it just as it would any PO. The system automatically allocates the merchandise to the primary sales order, and the PBU follows its standard procedures to ship to the end customer, generate an ASN, and submit an invoice.

Multilevel EMT Overview

Standard EMT involves a two-level relationship between the organization issuing the original sales order (the PBU) and the final supplier (the SBU). In multilevel EMT, however, the secondary sales order creates yet another PO, which is transmitted to a lower-level supplier.

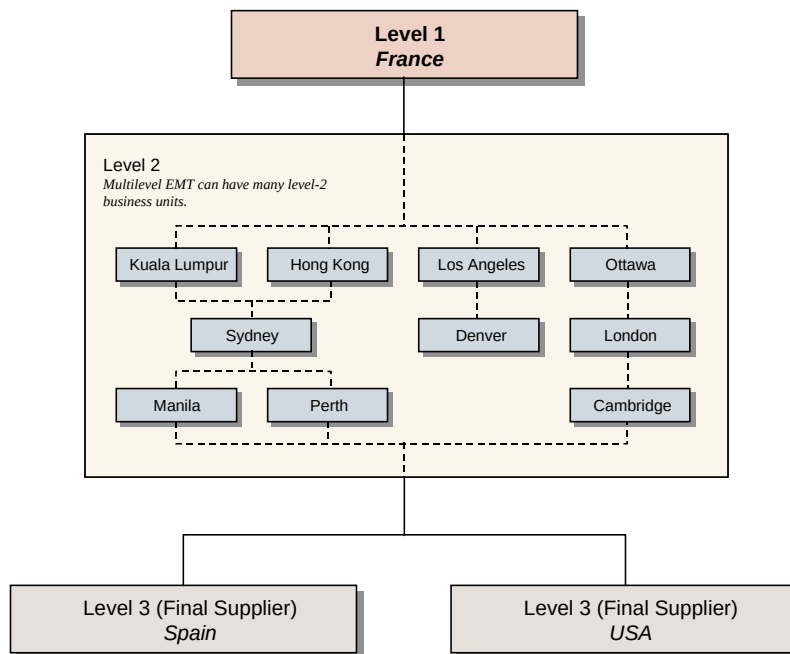
Although multilevel EMT can have as many levels as required by a specific business model, business units within a multilevel EMT supply chain are normally defined at three levels:

- Level 1: The business unit receiving the end customer's original order. This corresponds to the PBU in standard EMT.
- Level 2: Mid-level organizations between the level 1 business unit that recorded the original customer demand and the final supplier, which actually provides the items to fill the demand. The level 2 hierarchy can include any number of business units. In standard EMT terms, a level 2 unit acts as a PBU in some relationships and as an SBU in others.
- Level 3: The lowest-level business unit in the supply chain, which supplies the original demand. This is the equivalent of the SBU in standard EMT.

The workflow among multiple levels is similar to that used in standard EMT. Business documents such as POs, change documents, and ASNs are passed up and down the supply chain one level at a time. However, some restrictions apply to level-2 business units:

- They must accept changes from business units above or below them on the supply chain. They simply pass them on to the next level using a PO change or PO change acknowledgment, as appropriate.
- They cannot modify the quantity or due date on a primary sales order. They can, however, change the EMT supplier or the EMT type—direct ship, transship, or non-EMT. When they do, the system automatically cancels the purchase order issued by the level-2 business unit and generates a new one.

Fig. 9.2
Multilevel EMT Hierarchy



Electronic Data Interchange

Electronic data interchange (EDI) is the paperless exchange of trading documents such as purchase orders, shipment authorizations, advance ship notices, and invoices using standardized document formats. You can use EDI eCommerce features to communicate EMT documents automatically among multiple levels of suppliers.

Note If you are using standard EMT, in which there is a two-level relationship between the organization recording the final customer's demand and its supplier, EDI transmission is optional. For example, you can fax or mail the EMT purchase order to the SBU. EDI is required for the other automated processing features offered by EMT.

However, if you use multilevel EMT, in which there are two or more organizational levels in addition to the final supplier, EDI is required.

See "Using Multilevel EMT" on page 285.

Using Direct Allocations

In some supplier relationships, a business unit on one level of the supply chain is allowed to make a special, temporary allocation of inventory for an EMT order line at the lower-level supplier's site.

EMT supports this requirement under a specific set of circumstances:

- The PBU and SBU are located in a single domain, in two domains within the same database.
- Site records at the domains associated with the PBU and SBU are properly set up and reflect the correct relationships.
- The Direct Allocation field in Sales Order Control (7.1.24) at the PBU must be set to Yes.
- The allocation can only take place across one level; a level-1 business unit cannot directly allocate a level-3 supplier's inventory.

See "Setting Up Direct Allocations" on page 270.

When you enter an EMT item on a sales order and the setup has been done correctly, you can open up a browse to view detailed inventory information of the item at all lower-level supplier sites as well as at the current site, and change the default site for the sales order line to the site established for the SBU's domain. The system automatically changes the supplier to the one defined for the SBU's domain. The quantity specified is then assigned a preliminary allocation in the SBU's domain.

After you export the resulting EMT PO and the SBU imports it as a secondary sales order, the SBU's system converts the preliminary allocation into a general allocation to the secondary sales order. From that point, processing continues just as in any other EMT order.

Material Orders

In the Service/Support Management (SSM) module, service personnel use material orders (MOs) to order repair parts for specific calls or to replenish their inventory.

EMT supports MOs in the same way it supports sales orders. When you place a confirmed MO for an EMT item, the system automatically begins EMT processing by generating a purchase order for the associated supplier and queueing it for export with EDI or EDI eCommerce.

You can also make direct allocations of MO items at your supplier's site.

After the system automatically generates a purchase order from the confirmed MO, EMT processes material orders just like sales orders. EMT can process only transshipment items on MOs—not direct-shipment items. Change management, status tracking, and exchange of EDI documents throughout all levels of the EMT supply chain work the same way.

For more information on material orders, see *User Guide: QAD Service/Support Management*.

Intrastat Effects of EMT Orders

Intrastat features support regulatory-agency reporting requirements for tracking business transactions involving companies in countries that are members of the European Union (EU).

See *User Guide: QAD Intrastat* for information on Intrastat.

If your EMT orders involve direct shipments among trading partners in multiple EU nations, specific rules apply to which trading partner—the PBU, the SBU, or the end customer—is responsible for reporting the transaction.

When you receive a PO shipper or post an invoice for a direct-ship Intrastat item, the system uses the following rules to determine whether to create an Intrastat history record, which is used as the basis for reporting:

- **Dispatches:** When the PBU and SBU are in the same country, the PBU is responsible for reporting the shipment. When they are in different countries, the SBU is responsible.
- **Arrivals:** When the PBU and the end customer are in the same country, the PBU is responsible for reporting the receipt. When they are in different countries, the end customer is responsible.

Note Standard Intrastat logic applies to non-EMT and transshipment items. Setting Up EMT

EMT setup is required at both the PBU and the SBU. Most EMT setup takes place at the PBU, and consists of defining appropriate default values. Figure 9.3 illustrates a general workflow for setup activities.

Some differences in setup data are required if you use multilevel EMT. These differences are described within the appropriate setup tasks and are also summarized in the section covering multilevel EMT.

See “Setup Considerations” on page 286.

Fig. 9.3
EMT Setup Workflow

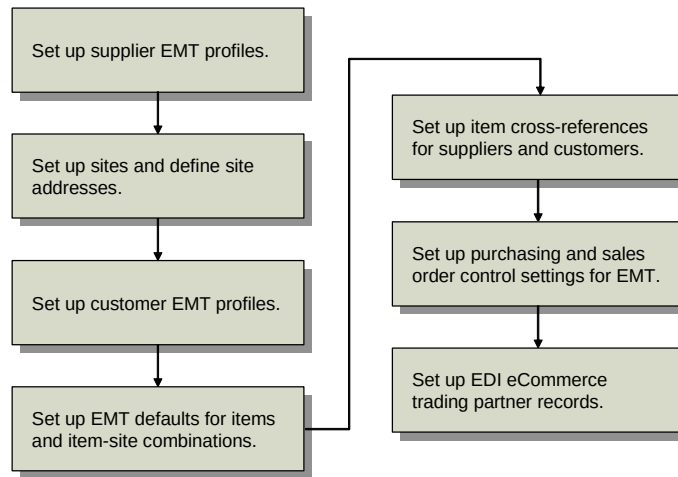


Table 9.1 lists the programs used to complete EMT setup tasks at the PBU and SBU in standard EMT.

Table 9.1
EMT Setup

Function	Set Up	PBU	SBU
Supplier Data Maintenance (2.3.1)	Supplier's EMT order processing information.	✓	
Site Maintenance (1.1.13)	Primary and secondary business units as sites and define default suppliers.	✓	✓
Company Address Maintenance (2.12)	Newly created sites as company records.	✓	✓
Customer Data Maintenance (2.1.1)	Customer's EMT profile.		✓
Item Master Maintenance (1.4.1)	How the system processes EMT items.	✓	✓
Item-Site Planning Maintenance (1.4.17)	How the system processes EMT items at a particular site (PBU, SBU, or both).	✓	✓
Customer Item Maintenance (1.16)	Item cross-reference at SBU.		✓
Supplier Item Maintenance (1.19)	Item cross-reference at PBU.	✓	
Sales Order Control (7.1.24)	Defaults for EMT sales orders.	✓	✓
Purchasing Control (5.24)	Defaults for purchase orders.	✓	
Trading Partner Maintenance (35.13.7)	Trading partners; used with EDI eCommerce module.	✓	✓
Trading Partner Parameter Maint (35.13.10)	Parameters associated with specific trading-partner site and address cross-references; used with EDI eCommerce module.	✓	✓

Setting Up Supplier Profiles

Use Supplier Data Maintenance (2.3.1) to set up EMT processing defaults for existing suppliers.

To create new SBUs, use Supplier Create to create supplier records first; then use Supplier Data Maintenance (2.3.1) to complete the setup of SBUs. The new supplier name will also be used to create the SBU site later.

Fig. 9.4
Supplier Data Maintenance (2.3.1)

Supplier Data Maintenance

Supplier Data Maintenance: Go To - ACTIONS -

Supplier Address

Supplier: 5010 Business Relation: Active: ☒
 Name: Wholesale Supply Co. Added: 06/27/2001
 Address: 110 Route 46 East
 Address:
 City: Philadelphia State: PA Post: 21345
 Country: United States USA County:
 Attention: [2]:
 Telephone: 215 677-4867 [2]:
 Fax/Telex: 215 677-3456 [2]:

Enterprise Material Transfer Data

Send SO Price: ☒ SO Price Reduction: 0.00%
 Send Credit Held SO: ☐ Use SO Reduction Price: ☐
 Auto EMT Processing: ☐
 Automatic PO Receipt: ☒

This frame supports EMT processing.

The fields in the Enterprise Material Transfer Data frame support EMT order processing for suppliers.

Send SO Price. Yes indicates that the supplier is authorized to receive the original sales order price from the PBU. No indicates that the supplier is not authorized to receive the original sales order price.

Send Credit Held SO. Enter Yes to have this supplier receive EMT purchase orders from SOs placed on credit hold at the PBU. Enter No to prevent the supplier from receiving these purchase orders.

This field is related to the EMT Credit Flow field in Customer Data Maintenance, which determines whether credit information is transmitted with a sales order.

See “Credit Held Orders” on page 274.

Auto EMT Processing. This field is used only for multilevel EMT processing. Enter Yes to have level 2 business units automatically generate secondary POs for lower-level business units. See “Using Multilevel EMT” on page 285.

Automatic PO Receipt. Enter Yes to have the PBU automatically receive the SBU’s purchase orders on EMT direct shipment items when the PBU imports the SBU’s ASNs. This lets you complete the order cycle on direct shipments without requiring a user to manually receive the PO shipper.

SO Price Reduction %. Enter the mark-down percentage to use when Use SO Reduction Price is Yes.

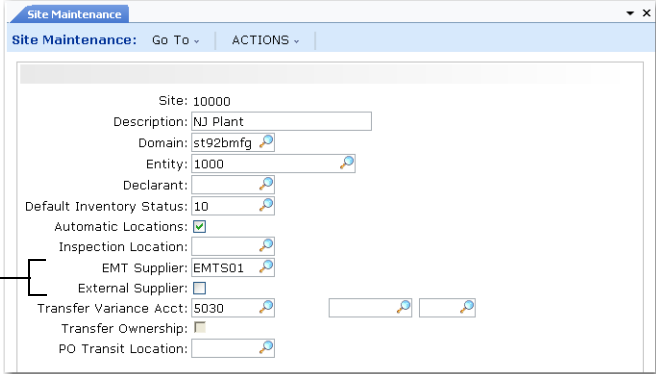
Use SO Reduction Price. Enter Yes to reduce the price of items ordered from the supplier by the specified SO price reduction percentage. The SO reduction price calculation is similar to a markdown. Enter No to use standard SO prices without any reduction percentage.

Note This feature is available on direct shipments because the PBU never actually needs to physically receive the items shipped by the SBU. The PBU still must receive purchase orders manually on EMT transshipments.

Setting Up Sites

Use Site Maintenance (1.1.13) to set up the PBU and SBUs as sites.

Fig. 9.5
Site Maintenance (1.1.13)



Site: 10000
 Description: NJ Plant
 Domain: st92bmfg
 Entity: 1000
 Declarant:
 Default Inventory Status: 10
 Automatic Locations: ☒
 Inspection Location:
 EMT Supplier: EMTS01
 External Supplier: ☐
 Transfer Variance Acct: 5030
 Transfer Ownership:
 PO Transit Location:

These fields determine EMT processing.

Set External Supplier to Yes only when this is a connection site associated with a supplier site in a different domain within the current database that allows direct allocations from the PBU.

See “Using Direct Allocations” on page 260.

Establishing Sites as Companies

EMT requires that sites have address records to support such features as direct shipments and direct allocation. Create site addresses in Company Address Maintenance (2.12). Simply creating a site in Site Maintenance does not create this record.

Setting Up Customer Profiles

Use Customer Data Maintenance (2.1.1) to define the default EMT type and other EMT values for customers. This process is not limited to EMT orders. The system uses these values to:

- Determine the default processing mode for sales order lines for this customer.
- Determine whether credit status information is included in purchase orders generated to fill demand from this customer. This feature lets your suppliers automatically place credit holds on their secondary sales orders when the primary sales order is on credit hold.
- Establish a customer’s EMT shipping lead time. The system uses this data when calculating the due date.
- Determine whether imported EDI or EDI eCommerce documents with PO data create confirmed or unconfirmed secondary sales orders at the SBU.

The PO Required field in Customer Data Maintenance has special significance for EMT. Set this field to Yes at the PBU for customers normally involved in EMT processing. When Yes, all sales orders for this customer must have a corresponding PO number. This is required for EDI transmissions between the PBU and SBU.

Fig. 9.6

Customer Data Maintenance (2.1.1)

The screenshot shows the 'Customer Data Maintenance' window. The 'Customer Address' section contains the following information: Customer: 1002AB, Business Relation: 10000-st92bmfg, Name: Quality Products Div 1000, Address: Distribution Division, Address: One World Way, City: Morristown, State: NJ, Post: 07960, Country: X United States, USA, County: [2:], Attention: [2:], Telephone: [2:], Fax/Telex: [2:]. The 'Enterprise Material Transfer Data' section contains: EMT Type: TRANSHIP, Customer Shipping LT: 5, Confirmed EMT SO: [checked], and EMT Credit Flow: [unchecked]. A callout box points to the 'Confirmed EMT SO' field with the text: 'This frame supports EMT processing.'

The fields in the Enterprise Material Transfer Data frame support EMT order processing.

EMT Type. Determines the default EMT type, either transshipment or direct shipment, or instructs the system to use standard, non-EMT processing.

Customer Shipping LT. Enter the customer's shipping lead time. This is the average number of days needed to get the items to the customer on time. This value is added to the purchase lead time for the item, and the total subtracted from the end customer's required date. The result is the due date used on the EMT purchase order. See "Calculating Due Dates" on page 275.

Confirmed EMT SO. Indicate whether imported EDI messages with PO data create confirmed or unconfirmed sales orders at the SBU. Enter Yes to specify that a confirmed secondary SO be created. Enter No to specify that unconfirmed SOs be created. This field does not affect processing at the PBU.

EMT Credit Flow. Enter Yes to have EDI transmit the credit status of the order so that credit-held primary sales orders result in credit-held secondary sales orders. Enter No if credit information should not be transmitted. See "Credit Held Orders" on page 274.

This field is related to the Send Credit Held SO field in Supplier Data Maintenance, which determines whether a supplier is authorized to receive purchase orders generated from credit-held sales orders.

Setting Up Items

Set up items for EMT processing in Item Master Maintenance (1.4.1).

Fig. 9.7
Item Master Maintenance (1.4.1)

The screenshot shows the 'Item Master Maintenance' window for Item TT-500, described as 'Standard wire clip'. The 'Item Planning Data' section is active, displaying various fields for planning and manufacturing. Annotations highlight specific fields:

- Purchase lead time affects the EMT PO delivery date.** This annotation points to the 'Pur LT' (Purchase Lead Time) field, which is currently set to 0.
- These fields determine EMT processing.** This annotation points to the 'EMT Type' field, which is currently set to 'TRANSHIP'.

Other visible fields include 'Mstr Sched', 'Plan Orders', 'Time Fence', 'MRP Required', 'Order Policy', 'Order Qty', 'Batch Qty', 'Order Period', 'Safety Stock', 'Safety Time', 'Reorder Point', 'Revision', 'Issue Policy', 'Buyer/Planner', 'Supplier', 'PO Site', 'Purchase/Manufacture', 'Configuration Type', 'Inspect', 'Ins LT', 'Mfg LT', 'ATP Enforcement', 'Family ATP', 'ATP Horizon', 'Run Seq 1', 'Run Seq 2', 'Phantom', 'Minimum Order', 'Maximum Order', 'Order Multiple', 'Op Based Yield', 'Yield Percent', 'Run Time', 'Setup Time', 'Auto EMT Processing', 'Network Code', 'Routing Code', and 'BOM/Formula'.

Pur LT. The purchasing lead time is important in calculating the final expected delivery date for an EMT PO. The system combines this value with the value in the Shipping LT field in Customer Data Maintenance for the end customer and then subtracts from the EMT PO's due date to determine the expected delivery date. See "Calculating Due Dates" on page 275.

EMT Type. This field defines how the system processes this item at the PBU.

- Enter NON-EMT to specify normal sales order processing.
- Enter TRANSHIP for transshipments.
- Enter DIR-SHIP for direct shipments.

Auto EMT Processing. This field is used only for multilevel EMT processing. Enter Yes to have level 2 business units automatically generate secondary POs for lower-level business units. See "Using Multilevel EMT" on page 285.

Establishing Item-Site Relationships

Item planning data controls planning and manufacturing functions. For an item used at multiple sites, you can set up planning data differently for each site. All planning and manufacturing functions use item-site planning data.

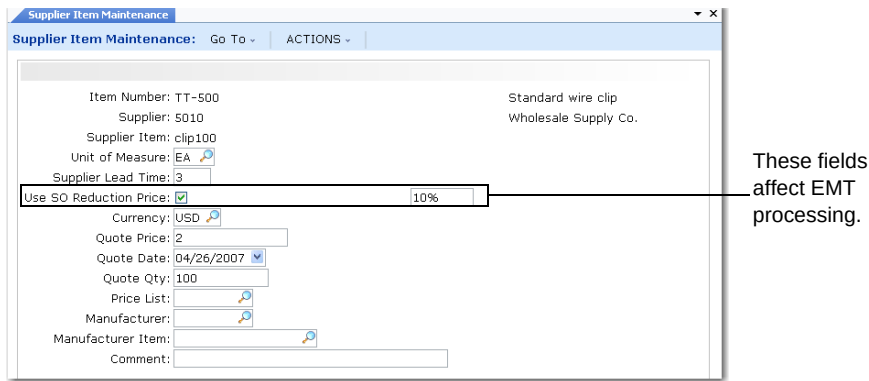
If the same item is stocked at different sites, it can have different purchase lead times and EMT types. In this case, use Item-Site Planning Maintenance (1.4.17) to establish the specific item-site relationships.

If you are using multilevel EMT, set Auto EMT Processing to Yes.

Setting Up Item Cross-References

Use Supplier Item Maintenance (1.19) to set up supplier items at the PBU so that EMT purchase orders transmitted to the SBU reference the correct item numbers. Two fields affect EMT order processing.

Fig. 9.8
Supplier Item Maintenance (1.19)



Supplier Item Maintenance: Go To ACTIONS

Item Number: TT-500
Supplier: 5010
Supplier Item: clip100
Unit of Measure: EA
Supplier Lead Time: 3

Standard wire clip
Wholesale Supply Co.

Use SO Reduction Price: ☒ 10%

Currency: USD
Quote Price: 2
Quote Date: 04/26/2007
Quote Qty: 100
Price List:
Manufacturer:
Manufacturer Item:
Comment:

These fields affect EMT processing.

Use SO Reduction Price. Enter Yes to specify a reduction percentage.

Reduction Price Percentage. If use SO Reduction Price is Yes, enter a reduction price percentage. The sales order price is marked down based on the percentage you specify. For example, if the sales order price is 10 USD and you specify a reduction of 10%, the final price is marked down to 9 USD.

You can also update similar fields in Supplier Data Maintenance. These are used for items that have not been defined in Supplier Item Maintenance.

As an alternative, use Customer Item Maintenance (1.16) to set up item cross-references at the SBU. In this case, setting up supplier cross-references is not needed.

See “Setting Up Supplier Profiles” on page 263.

Note If cross-references are not defined, the sales order at the SBU is created for a memo item, even if item numbers are identical in both domains.

End Customer Item Numbers

You can also use Customer Item Maintenance at the PBU to set up item cross-references for your end customer. When an EMT item at the PBU is associated with a customer item number, that number is exported to the SBU as part of the EMT purchase order. It is stored at the SBU in the secondary sales order record, although it does not display anywhere on the user interface.

When the item is directly shipped to the end customer, the customer’s own item number prints on the shipping document. If no cross-reference has been defined, the system prints the regular item number on the shipping document.

Setting Up Sales Order Control

Sales Order Control (7.1.24) controls allocations, standard sales orders, EMT sales orders, forecast consumption, trailer codes, and history retention.

Fig. 9.9
Sales Order Control (7.1.24)

Use the second frame of Sales Order Control to establish EMT defaults at the PBU and SBUs.

Use Enterprise Material Transfer. Enter Yes to activate EMT.

EMT Type. Specify the default EMT type for processing sales orders. The system uses this field in combination with EMT Sequence. Possible values are: NON-EMT, TRANSHIP, DIR-SHIP.

EMT Sequence. Enter the search order sequence the system should use when determining the default EMT type for a sales order. Specify any combination of A, B, C, and D, where:

- A = Item/Site, defined in Item-Site Planning Maintenance (1.4.17)
- B = Item, defined in Item Master Maintenance (1.4.1)
- C = Customer, defined in Customer Create (27.20.1.1)
- D = Sales Order Control

Auto EMT Processing. This field is used only by level-2 business units for multilevel EMT processing. Enter Yes to have level-2 business units automatically generate secondary POs for lower-level business units. See “Using Multilevel EMT” on page 285.

Calculate Due Date. Enter Yes to have the system calculate the due date using various lead times. See page 275.

Direct Allocation. Enter Yes to reserve a supplier’s inventory for EMT sales orders that you create. When the PBU and SBU are in domains in the same database, the system makes a preliminary allocation in the SBU’s database. This is confirmed and converted to a normal allocation when the SBU creates a confirmed secondary sales order from the EMT purchase order. See page 260.

Direct allocation works only under a specific set of conditions related to setup data. Under most circumstances, leave this field set to No.

Direct Shipment Location. Enter a location at the PBU to be used when items are shipped by the SBU directly to the customer. The system uses this location to create and relieve allocations in preparation for invoicing the customer. No inventory actually exists there. The location must have an inventory status of non-nettable and available. This prevents MRP from planning requirements for these items.

Auto Accept Supplier Changes. Enter Yes to allow the PBU to automatically accept due date and quantity change requests received from the SBU.

When this field is No, the system creates change records associated with change requests. You must then use Sales Order Maintenance (7.1.1) to manually accept supplier changes, or Supplier Change Rejection Maint (35.22.2) to reject them.

Use Customer Currency on PO. Enter Yes to have the system use the currency associated with the end customer when generating an EMT purchase order from the PBU's primary sales order. When the SBU imports this purchase order to create a secondary sales order, that sales order is in the end customer's currency.

When this field is No, the system uses the currency associated with the supplier when generating the EMT purchase order—resulting in a secondary sales order that is also in the supplier's currency.

Note Specify currencies in Customer Create (27.20.1.1) and Supplier Create (28.20.1.1).

Allow Mod/Del When SO Picked, When Released to WO, When Shipped. Enter Yes to let the PBU modify or delete the primary sales order line after importing a status change message from the SBU. When you access a line with a status change with one of these fields set to Yes, the system displays a warning and prompts you to continue. See "Shipment Status" on page 282.

When one of these fields is set to No, the PBU is prevented from making any changes to a sales order line after importing the related status change from the SBU.

Note The system does not accept all changes to a line with a status change. For example, while you can change the salesperson commission on a line that has already been picked at the SBU, the system displays an error message if you attempt to change the quantity.

Allow Non-Ack Deletes. Specify whether the PBU can delete its primary EMT sales order or individual order lines before importing an acknowledgment from the SBU when Require Acknowledgment is Yes in Purchasing Control.

No (the default): An error message is displayed if you attempt to delete an unacknowledged order or line when Require Acknowledgment was set to Yes in Purchasing Control at the time the order was exported to the SBU.

Yes: You can delete unacknowledged orders or lines regardless of the Purchasing Control setting.

Export Hold Sales Status. Specify how EDI eCommerce PO export functions send EMT purchase orders to the secondary business unit (SBU) supplier based on the value of Send Credit Held SO in Supplier Data Maintenance (2.3.1).

Blank (the default): The system exports all orders to SBUs with Supplier Data Maintenance records that have Send Credit Held SO set to Yes, regardless of action status.

HD: When Send Credit Held SO is Yes, the system exports orders with an action status of HD or blank. Orders with any other action status are excluded.

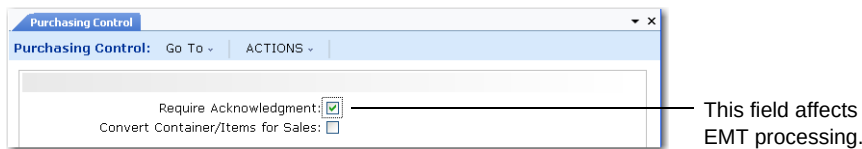
Other non-blank value: When Send Credit Held SO is Yes, the system exports orders with Action Status set to this value or blank. Orders with any other action status are excluded.

Note When the sold-to customer's Customer Data Maintenance (2.1.1) record has EMT Credit Flow set to Yes, the exported PO includes the Action Status value from the primary sales order.

Setting Up Purchasing Control

Purchasing Control (5.24) controls PO information. The Require Acknowledgment field affects EMT processing.

Fig. 9.10
Purchasing Control (5.24)



Require Acknowledgment. If the supplying site is using EMT, enter Yes to require a PO acknowledgment to be imported from the SBU before changes are allowed to the PBU's primary sales order. This field should be Yes at both the PBU and the SBU.

When set to No, PO acknowledgments are not required from lower-level business units. When an EMT PO is created, it is automatically marked as acknowledged so that the originating business unit can modify its primary sales order as required.

Whether the primary sales order—or its individual lines—can be deleted before acknowledgment is not entirely controlled by this field. Instead, when Require Acknowledgment is Yes, the system uses the value of Allow Non-Ack Deletes in Sales Order Control. When that field is Yes, you can delete the primary order or lines regardless of the acknowledgment status.

This field only determines whether an initial PO acknowledgment is required after the original PO message has been imported. PO change acknowledgments are always sent when your EMT process is using EDI messages.

Setting Up Direct Allocations

Use EMT's direct allocation feature to make a preliminary inventory allocation at the SBU's site when you generate the original primary sales order. When the SBU imports your EMT PO to create a secondary sales order, the system automatically converts this preliminary allocation to a standard general allocation.

For direct allocations to work, make sure the following conditions are met in the setup data. These setup tasks are in addition to the setup required for any EMT environment. For example, you must also set up supplier, site, and item records, as well as the trading partner data required to transmit electronic business documents in EDI eCommerce.

See "Standard Intrastat logic applies to non-EMT and transshipment items. Setting Up EMT" on page 261.

- The SBU site must be set up in the SBU's domain first.

- At the PBU, use Site Maintenance (1.1.13) to set up a connection site representing the supplying SBU site in the SBU's domain.
 - Use the same site name as that of the SBU site.
 - In the Domain field, enter the name of the SBU's domain. This domain must be in the current database.
 - Leave EMT Supplier blank.
 - Set External Supplier to Yes.

When you enter a sales order line that allocates inventory directly from the SBU site, you change the Site field in the EMT pop-up to this site. This allows you to make a preliminary allocation.

- At the PBU, use Supplier Create to create a supplier representing the supplying SBU site and use Supplier Data Maintenance to complete the supplier data setup. The supplier code must be identical to the site name.
- The EMT items defined at the PBU and the SBU must have the same item numbers.
- In Sales Order Control (7.1.24), set Direct Allocation to Yes.

Setting Up EDI eCommerce to Support EMT

Before you can begin processing EMT transactions with eCommerce, you must have the following data set up for each type of EMT EDI document in the domain of each trading partner that will process eCommerce data:

- EC subsystem definition
- Exchange file definition
- EC subsystem/exchange file cross-reference
- QAD document definition
- Implementation definition
- Transformation definition

See *User Guide: QAD Scheduled Order Management* for EDI eCommerce setup information.

In addition, you must have trading-partner data defined using the following programs. Depending on how you use EDI eCommerce, you already may have defined much of the required setup data.

- Transmission Group Maintenance (35.13.13). Specify default destination directories for exported files.
- Trading Partner Maintenance (35.13.7). Set up site and address cross-references, as well as references to document transformation definitions needed to transmit EMT documents.
- Trading Partner Parameter Maint (35.13.10). Set control fields that let you export EMT-specific documents to the trading partner.

See *User Guide: QAD Scheduled Order Management* for information on these programs.

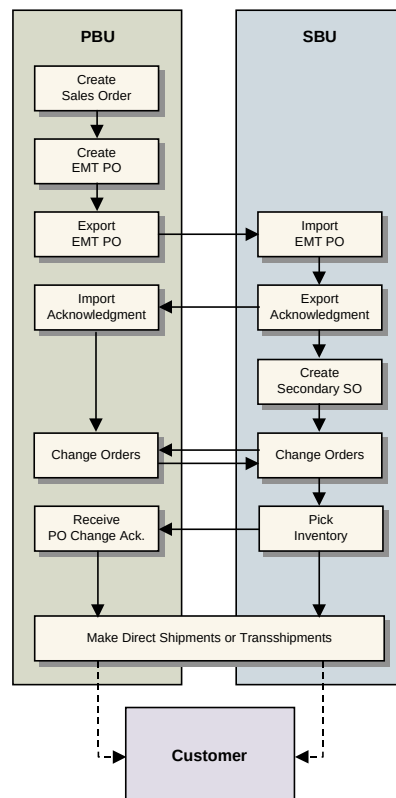
Using Standard EMT

You can start processing EMT sales orders only after you have set up all the control and master programs to establish EMT functionality. This section describes the process flow for EMT orders, which is summarized in Figure 9.11.

Throughout this section, references to importing and exporting documents assume you are using EDI eCommerce to exchange EMT business documents with your trading partners.

See “Standard Intrastat logic applies to non-EMT and transshipment items. Setting Up EMT” on page 261.

Fig. 9.11
EMT Process Flow



Creating an EMT Sales Order

Create EMT sales orders in Sales Order Maintenance (7.1.1) or by importing your customer's PO with EDI eCommerce. The system identifies an EMT sales order line by retrieving the EMT type setting from records associated with the customer, item, item/site, or Sales Order Control. The order the system uses to determine the EMT type is defined in Sales Order Control.

The system automatically determines the default supplier for an item from item-site, item, or site information. Once the site has been entered and a default supplier established, you can override the default and choose another supplier. When the sales order has been confirmed, the system automatically builds the purchase orders and queues them for transmission.

See “Deferring the Creation of an EMT Purchase Order” on page 277.

You must enter a PO number if the PO Required field in Customer Data Maintenance (2.1.1) is Yes for your customer. If the PO Required field is No and you do not enter a PO number, a warning displays indicating that a PO number is required for EMT sales order processing.

Based on master records and settings in Sales Order Control, the system displays the default supplier and EMT type. Sales order line data includes the Supplier and EMT Type fields only when Use Enterprise Material Transfer is Yes in Sales Order Control.

See “Setting Up Sales Order Control” on page 268.

Important When you enter a sales order for an EMT item, you must enter data in single-line mode. Otherwise, EMT Type defaults to non-EMT and the system does not automatically generate a PO for the supplier.

Fig. 9.12
Sales Order Line

EMT type and default supplier display for each sales order line.

When the sales order line is complete, the system automatically creates an EMT purchase order and queues it for transmission to the SBU. EMT PO details display in the Enterprise Material Transfer Data frame.

You can specify a different supplier for each line of a multiple-line sales order. Additionally, you can enter non-EMT and EMT items on different lines of the same sales order.

Note Purchase orders are generated only for confirmed sales order lines. See page 277.

Fig. 9.13
Enterprise Material Transfer Data Frame

EMT PO data displays in this frame.

Direct Allocations

When you enter an EMT item on a sales order, clicking the site browse icon brings up the Available Quantities browse that provides you with cross-domain inventory visibility into lower-level SBU sites within the same database. You can view the inventory information of an EMT item in the browse including quantity on hand, quantity on order, and available-to-allocate quantity.

Fig. 9.14
Available Quantities Browse

Site	Description	Quantity On Hand	Quantity on Order	Available to Allocate
yIPBU01		200.0	2,082.0	200.0
yISBU01		150.0	0.0	150.0
yISBU02		80.0	0.0	58.0
yISBU03		70.0	10.0	70.0
yISBU04		30.0	0.0	30.0
yISBU08		940.0	0.0	940.0
yISBU09		5,000.0	3.0	4,999.0
yISite01		90.0	1.0	90.0

If the EMT direct allocations setup has been done correctly, you can change the default site to the site established for the SBU. The system automatically changes the supplier to the one defined for the SBU's domain. The quantity specified is then assigned a preliminary allocation in the SBU's domain.

After you specify a supplier, the system checks if the supplier site has been properly set up for EMT processing, such as whether the supplier is active and its data setup is complete, and whether the site has been set as an external supplier in the PBU domain. If data setup is incorrect or incomplete, the system displays an error.

After you export the resulting EMT PO and the SBU imports it as a secondary sales order, the SBU's system converts the preliminary allocation into a general allocation to the secondary sales order.

See "Setting Up Direct Allocations" on page 270.

Credit Held Orders

The way credit-held sales orders are transmitted from the PBU to the SBU is determined by two fields:

- EMT Credit Flow in Customer Data Maintenance (2.1.1) for the sold-to customer on the primary sales order. This setting determines whether credit data for the customer is exported to the SBU.
- Send Credit Held SO in Supplier Data Maintenance (2.3.1) for the EMT supplier on the primary sales order. This setting determines whether the supplier is authorized to receive EMT purchase orders generated from credit-held sales orders.

Table 9.2 summarizes the effects of the combinations of these fields.

Table 9.2
EMT Credit Flow

EMT Credit Flow	Send Credit Held SO	Effect
Yes	Yes	PO is exported to PBU. If primary SO is on credit hold, secondary SO is on credit hold.
Yes	No	PO is not exported to PBU.
No	No	PO is not exported to PBU.
No	Yes	Purchase order is exported to PBU. Secondary SO is not on credit hold, even if primary SO is.

When a supplier is not authorized to receive credit-held orders, EMT still automatically generates purchase orders. However, they are not queued for transmission until the credit hold is cleared.

The trailer frame of the sales order indicates whether an order is on credit hold. If the Action Status field has any value other than blank, the order is on hold.

Calculating Due Dates

EMT calculates sales order and purchase order dates as follows:

- Unless specified otherwise, all due date calculations are the same for transshipments and direct shipments.
- Inspection lead time calculations use the shop calendar.
- Promise date calculations occur only during entry of a new sales order line. If components in the promise date calculation change, you must delete and reenter the sales order line.
- Inspection lead time is calculated only if Inspect is Yes for the item in the Item Planning Data frame of Item Master Maintenance or Item-Site Planning Maintenance.
- Customer shipping lead time applies only to transshipment orders, with the following exception. If an SBU has the end customer in its domain with a customer shipping lead time, that lead time is included in date calculations.
- There is no adjustment for past-due purchase orders. If the sales order due date is already past due, the resulting purchase order will also be past due.
- PO performance date may not allow enough time for purchasing lead time in certain situations.

Table 9.3 summarizes the formulas for due date calculations at the PBU.

Table 9.3
Formulas for Due Date Calculations at the PBU

Date	Calculation
SO line due date	User enters this date.
SO line required date	User enters this date.
SO line promise date (transshipments only)	Today + purchasing LT + inspection LT + shipping LT + customer shipping LT
SO line promise date (direct shipments only)	Today + purchasing LT
PO line need date	SO line due date
PO line due date (transshipments only)	SO line due date – inspection LT

Date	Calculation
PO line due date (direct shipments only)	SO line due date
PO line performance date	PO line due date

Table 9.4 summarizes the formulas for due date calculations at the SBU.

Table 9.4
Formulas for Due Date Calculations at the SBU

Date	Calculation
SO line required date	PBU PO due date
SO line due date	PBU PO due date – SBU Transit Days
SO line promise date	SO line required date

Due Date Changes Originating at the PBU

Changing the SO line due date on an EMT order at the PBU queues a PO change for transmission to the SBU. When the change is executed, the following dates are recalculated at the PBU using the rules described previously:

- PO line need date
- PO line due date
- PO line performance date

When the change is imported at the SBU, the change is automatically applied and the following dates are recalculated using the rules in the previous tables:

- SO line required date
- SO line due date

Due Date Changes Originating at the SBU

If the promise date is changed on the secondary sales order at the SBU, the change is queued for export to the PBU as a PO Change Acknowledgment. The only date that changes at the SBU is the promise date. However, when the PBU imports and accepts the change, the following dates are recalculated:

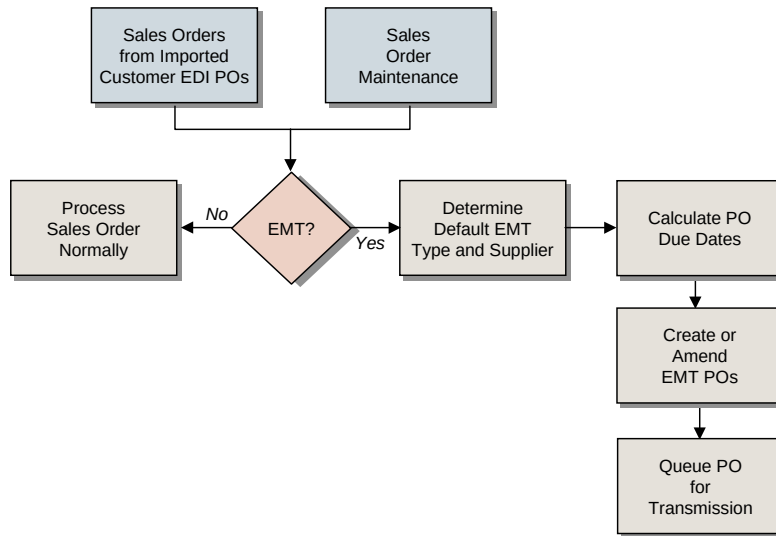
- PBU PO line due date is set to the new promise date.
- PBU PO line need date is offset from the new PO line due date.
- PBU PO line performance date is set to the new PO line due date.
- SO line due date is set to the new PO line due date.

In multilevel EMT, the middle-level business units set the SO line due date, SO line required date, and the SO line promise date to the new SO line performance date originating from the lower-level business unit.

Creating the EMT Purchase Order

An important advantage of EMT is its ability to generate purchase orders from confirmed sales orders automatically. Figure 9.15 summarizes the EMT purchase order process, which takes place automatically when you enter a confirmed sales order.

Fig. 9.15
Creating an EMT Purchase Order



When a sales order is confirmed at the PBU, the system checks control program and master-table values to determine whether EMT processing is required. If it is, the system calculates the EMT due date, creates an EMT purchase order, and queues the PO for export to the appropriate SBU.

Note When you create an EMT sales order with multiple lines and multiple suppliers, the system combines the lines into a single, multiple-line purchase order for each supplier. If multiple lines represent the same item, the PO has each line item quantity on a different line. If order lines for one supplier are on separate sales orders, the system maintains a separate purchase order for each sales order.

The system creates or maintains a sales order based on an imported EDI document. An EDI document contains PO information used to create sales orders at an SBU.

Deferring the Creation of an EMT Purchase Order

To prevent automatic EMT processing from starting immediately on sales orders, create or import the sales orders as unconfirmed.

- When you enter a sales order manually in Sales Order Maintenance (7.1.1), set Confirmed to No. You can set the default for all new sales orders in the Confirmed Orders field of Sales Order Control (7.1.24).
- When you import the end customer's purchase order using EDI eCommerce, set Confirmed EMT SO to No for that customer in Customer Data Maintenance (2.1.1).
- To create an unconfirmed secondary sales order from the PBU's imported purchase order, set Confirmed EMT SO to No in the PBU's record in Customer Data Maintenance.

In either situation, if an EMT sales order is unconfirmed, EMT processing does not begin until you confirm it using Sales Order Confirmation (7.1.5). This creates the corresponding EMT purchase order and queues it for export.

Printing the EMT PO

Use Purchase Order Print (5.10) to print the EMT purchase order at the PBU. If Use SO Reduction Price in Supplier Data Maintenance is Yes and a sales order reduction percentage is specified, the price discount appears on the PO. This pricing information is also exported to the SBU if Send SO Price is Yes for the supplier.

Exporting the EMT PO from the PBU

In a very simple EMT environment where you use EMT only to generate the initial purchase order and do everything else manually, you can just mail or fax the printed purchase order to the supplier. However, in a fully automated EMT environment, you use eCommerce Manager (35.22.13) to export the EMT purchase order from the PBU.

See “Communicating EMT Documents with EDI” on page 291.

If the sales order is on credit hold and Send Credit Held SO is Yes in Supplier Data Maintenance, the PO is sent to the SBU. If EMT Credit Flow is Yes in Customer Data Maintenance for the end customer, the resulting SBU sales order is placed on hold at the SBU.

See “Credit Held Orders” on page 274 for more information.

Importing the EMT PO into the SBU

The SBU uses eCommerce Manager to import the created EMT PO. When it has created a confirmed secondary sales order from the PBU’s purchase order, the SBU sends an acknowledgment to the PBU. The PBU imports the PO acknowledgment and the system changes and registers the transmission status.

The PBU cannot modify the primary sales order until it receives an acknowledgment from the SBU unless Require Acknowledgments is set to No in Purchasing Control (5.24) at the PBU.

See “Transmission Status” on page 282.

Modifying an EMT Order

You can make certain types of changes at both the PBU and the SBU during the EMT process. For example, the PBU’s customer that created the original demand might want to change the quantity of an item.

Types of acceptable changes depend on three factors:

- The business unit within the EMT supply chain that generates the change
- The status of the order within the overall EMT process
- The settings of status-related fields in Sales Order Control

Modifying a Sales Order at the PBU

Based on related settings in Sales Order Control, you may be able to modify the primary sales order line after a PO acknowledgment has been received even after one of the following occurs at the SBU:

- The order is picked.
- An order for a configured item is released to a work order.
- The order is shipped.

See “Shipment Status” on page 282.

Change Records

To manage changes made to the primary SO, the system uses change records. Once a sales order is created, transmitted, and acknowledged, any changes made to it generate a change record, which is queued for transmission to the SBU. These records are called *pending changes* and stay on the primary system pending acknowledgment from the SBU.

EMT sales order lines can be modified as long as no pending changes are present on the system for the corresponding PO. Changes made to a sales order are applied immediately to that sales order, and corresponding POs are also modified. The superseded PO values are recorded in the change record. If the PBU rejects the changes, the system rolls back the values to those stored in the record.

To automatically accept supplier change requests at the PBU, set Auto Accept Supplier Changes to Yes in Sales Order Control (7.1.24).

When a change record contains values for fields you are editing at the PBU, the system prompts you to use change request values. If you respond Yes, the system displays the change request values in frames where they are used. When you confirm a frame, the related change records are deleted.

If you choose not to apply change record values, run Manual Acknowledgment Resolution (35.22.1) or Supplier Change Rejection Maintenance (35.22.2) to reject the values.

If you choose No when prompted to use change request values, the current sales order line cannot be modified.

When you change a sales order line, conditions for acceptance of these modifications depend on the status of the EMT purchase order. Table 9.5 shows the rules.

Table 9.5
PBU Changes

PBU SO Changes	Current State of EMT PO			
	PO Not Transmitted	PO Transmitted	PO Acknowledged	Shipped, Picked, or Released to WO
Delete SO.	Delete SO. Record PO changes.	Delete SO. Cancel PO. Send EDI message.	Delete SO. Record PO changes. Cancel PO. Send EDI message.	Not allowed for direct shipments. For trans-shipments, ask if user wants to delete SO references from PO.
Delete SO line.	Delete SO line. Delete SO if no remaining line. Record PO changes. Cancel PO line. Cancel PO if no remaining line.	Delete SO line. Delete SO if no remaining line. Delete PO line. Delete PO if no remaining line. Send EDI message.	Delete SO line. Delete SO if no remaining line. Record PO changes. Cancel PO line. Cancel PO if no remaining line. Send EDI message.	Not allowed for direct shipments. For trans-shipments, ask if user wants to delete SO references from PO.
Modify site. (trans-shipment only)	Cancel PO line. Open new PO line. Record PO changes.	Apply to PO. Send EDI message.	Cancel PO line. Open new PO line. Record PO changes.	Not allowed.
Modify EMT type.	Cancel modified PO line, if changing EMT type to other type. Record PO changes. Open new PO line, if new type is an EMT type.	Delete PO, if changing from EMT type to normal type. Delete modified PO line, if changing EMT type to other type. Create new PO line, if changing from any type to other EMT type. Send EDI message.	Cancel modified PO line, if changing EMT type to other type. Record PO changes. Open new PO line if new type is an EMT type. Send EDI message.	Not allowed.
Modify quantity ordered.	Record PO changes.	Apply to PO. Send EDI message.	Record PO changes. Send EDI message.	Not allowed.
Modify due date.	Record PO changes.	Apply to PO. Send EDI message.	Record PO changes. Send EDI message.	Not allowed.

PBU SO Changes	Current State of EMT PO			
	PO Not Transmitted	PO Transmitted	PO Acknowledged	Shipped, Picked, or Released to WO
Change supplier after SO entry.	Cancel PO line. Open new PO line. Record PO changes.	Cancel PO line. Open new PO line. Send EDI message.	Cancel PO line. Open new PO line. Record PO changes. Send EDI message.	Not allowed.
Add SO line.	Add line to PO or create new PO. Record PO changes.	Add line to PO or create new PO. Send EDI message.	Add line to PO or create new PO. Record PO changes. Send EDI message.	May be allowed based on SO Control. See “Shipment Status” on page 282.
Change credit status after SO entry.	Record PO changes.	Apply to PO. Send EDI message.	Record PO changes. Send EDI message.	Not allowed.
Change other sales order fields.	Record PO changes.	Apply to PO, if appropriate. Send EDI message if required.	Apply to PO, if appropriate. Send EDI message if required.	May be allowed based on SO Control. See “Shipment Status” on page 282.

Changing the Credit Hold Status

All changes influencing the credit hold status of a sales order are applied to the corresponding EMT purchase orders, and changes are then queued for export. These changes may originate from:

- Sales Order Credit Maintenance (7.1.13)
- Sales Order Auto Credit Hold (7.1.16)
- Sales Order Auto Credit Approve (7.1.17)

See “Credit Held Orders” on page 274.

Changing the Supplier

You can change the EMT supplier code associated with an EMT sales order line in Sales Order Maintenance (7.1.1). This cancels the existing EMT PO, creates a new PO for the new supplier, and queues the cancellation and the new PO for export.

Similarly, you can use EMT Mass Supplier Change (7.1.22) to cancel *all* EMT POs for a supplier and issue new POs for a replacement supplier.

Modifying a Sales Order at the SBU

The following changes at the SBU are transferred to the PBU:

- Quantity ordered
- Due date, entered at SBU as change to Promise Date

These modifications are recorded in a change management record, and adjustments to satisfy the demand are exported to the PBU. The PBU imports the modifications as a change request from the SBU.

The PBU either accepts the requested changes when prompted to do so in Sales Order Maintenance or rejects them using Supplier Change Rejection Maintenance (35.22.2).

To have the PBU's system automatically accept date and quantity change requests received from the SBU, set Auto Accept Supplier Changes to Yes in Sales Order Control (7.1.24).

Status Tracking

The PBU maintains two forms of status tracking data related to EMT purchase orders. You can view both with EMT Tracking Report (7.15.11):

- Transmission status
- The SBU's shipping status

Fig. 9.16
EMT Tracking Report Output

sobtbrp.p		7.15.11 EMT Tracking Report				Date: 07/30/02			
Page: 1		Sales Office (NY)				Time: 08:51:14			
Ship-To: 01000000 General Office Supplies									
Sales Order: NY537		Cust PO Nbr: P096783							
Ln	Item Number	...	SO Due Date	PO Nbr	Ln	Trans	PO Due Date	Promised	SS
1	33-100	...	07/29/02	NY41090	1	3	07/29/02	07/29/02	P
Qty Ordered		...	Qty Picked	Qty Shipped	Qty	to Invoice	Qty Rec	Qty Open	
1.0		...	0.0	0.0	0	0	0.0	1.0	
Transmission Status					Shipping Status				

Transmission Status

The transmission status displays in the Trans column of the tracking report. For example, when the PBU imports the PO acknowledgment, the transmission status changes from 2 to 3.

Table 9.6
Transmission Statuses of EMT Sales Orders

Status	Action
1	The EMT purchase order is created and queued for transmission.
2	The EMT purchase order is pending receipt acknowledgment from the SBU.
3	Receipt of the EMT purchase order is acknowledged.
4	Awaiting receipt of change acknowledgment from the PBU.
5	A pending change to the EMT PO is awaiting acknowledgment from the SBU.

Shipment Status

Some programs modify the status of a secondary sales order at the SBU:

- Sales Order Release to Work Order (8.13)
- Picklist/Pre-Shipper Automatic (7.9.1)

- Pre-Shipper/Shipper Workbench (7.9.2)
- Pre-Shipper/Shipper Confirm (7.9.5)

When an order is picked or, in the case of a configured product, released to a work order, the SBU queues a PO change acknowledgment for export to the PBU. When the SBU ships the order, it exports either an ASN or a PO change acknowledgment, based on its trading policy with the PBU. When one of these documents is received, the EMT PO's status change is reflected at the PBU.

The SS column of the tracking report represents a shipment status, which is communicated to the PBU by PO change acknowledgments sent by the SBU.

Table 9.7
Ship Statuses of EMT Sales Orders

Status	Action
blank	No status change has been received from the SBU.
W	A configured item has been released to a work order.
P	Inventory has been allocated and picked at the SBU.
S	The SBU has shipped the items.

Whether or not the PBU can make changes to the primary sales order and have them accepted by the SBU after a status change is determined by the related setting in Sales Order Control and by the nature of the change.

Manual Acknowledgment

During EDI communications, requests can be sent simultaneously from the primary and secondary business units, causing potential acknowledgment conflicts. In this case, use Manual Acknowledgment Resolution (35.22.1) to replace the automatic acknowledgments.

Example Allow Mod/Del When SO Picked is Yes in Sales Order Control at the PBU. The PBU is allowed to change some fields, such as Commission, on the primary sales order line after importing a status change of P—indicating that the SBU has already picked the item. However, the PBU cannot change certain other fields on the primary sales order line—the quantity, for example.

Picking Inventory at the SBU

At the SBU, use Picklist/Pre-Shipper–Automatic (7.9.1) to pick and allocate inventory to the sales order. This creates a change management record that is exported to the PBU as a PO change acknowledgment.

When the PBU imports the PO change acknowledgment, the status of the EMT PO changes to P, indicating that inventory has been allocated and picked at the SBU.

When the original sales order at the PBU is for a configured product, and it is released to a work order in the SBU, another change record is created. When it is imported by the PBU, the order line status changes to W, indicating that the SBU order has been released to a work order and is in process.

Depending on how Sales Order Control is set, the PBU may no longer be able to make changes to its own sales order for the end item after one of these status changes takes place.

See “Shipment Status” on page 282.

Shipping Inventory from the SBU

Shipment and receipt processing vary slightly for transshipments and direct shipments.

EMT shipments are processed using Picklist/Pre-Shipper–Automatic (7.9.1) or Pre-Shipper/Shipper Workbench (7.9.2) and Pre-Shipper/Shipper Confirm (7.9.5) rather than Sales Order Shipments (7.9.15). This triggers a change record that is exported to the PBU either as an ASN or a PO change acknowledgment, based on the SBU's trading policy with the PBU.

- For transshipments, the SBU ships the order to the PBU.
- For direct shipments, the SBU ships the order directly to the PBU's end customer. When the sales order is created from the EMT PO at the SBU, the ship-to address becomes the end customer's address. The end customer's address is provided to the SBU by the imported EDI file.

The SBU creates the address as a temporary ship-to address for the PBU. This way, when the SBU ships its items, they go directly to the end customer, bypassing the PBU. Only the ASN generated during this process is sent to the PBU.

If the PBU has used Customer Item Maintenance (1.16) to set up cross-references between its own item numbers and those used by its end customers, the customer's item number prints on shipping documents produced by the SBU.

See “End Customer Item Numbers” on page 267.

In either case, the SBU has now finished the EMT order processing cycle and can invoice the PBU.

When the PBU imports the ASN from the SBU, the ASN automatically creates a PO shipper for the order. The PO shipper number is the same as the SO shipper number at the SBU. The EMT Tracking Report shows that the status has changed to S, indicating that the SBU has shipped the items.

Receiving Inventory at the PBU

EMT inventory receipt processing varies based on the type of shipment—direct or transshipment. In both cases, the PBU uses PO Shipper Receipt (5.13.20) to receive the inventory:

- On transshipments, the PBU uses PO Shipper Receipt to receive the inventory and automatically allocate it to the primary sales order. This ends the EMT cycle. The PBU then creates a shipper for the end customer's order, ships the inventory, sends the end customer an ASN if required, and invoices the customer.
- After importing the ASN on a direct shipment, the PBU can receive the PO immediately in PO Shipper Receipt.

Note Depending on the setting of Automatic PO Receipt in the Supplier Data Maintenance record for the SBU, the PBU can receive the PO automatically when the ASN is imported for a direct shipment item. In that case, it is not necessary to use PO Shipper Receipt.

The inventory is received at the direct shipment location (specified in Sales Order Control) and an ISS-SO transaction is completed. The primary sales order is shown as shipped and the direct shipment location is cleared. This ends the EMT cycle; normal sales order processing now begins. The PBU can use transaction history records to determine the sales order shipper

number. It can then use this number to generate an ASN and invoice the customer. In this situation, no real inventory exists at the direct shipment location. It must have a non-nettable status to prevent MRP from using the items for planning.

See “Setting Up Supplier Profiles” on page 263.

Using Multilevel EMT

In EMT, a multilevel organization is one with a top level, one or more middle levels, and a bottom level. The top level, or level 1, is equivalent to the PBU in standard EMT. The bottom level, or level 3, is equivalent to the SBU. The middle level (level 2) is where most multilevel EMT processing occurs. A level 2 EMT sales order is both a secondary sales order to a level 1 business unit and a primary sales order to a level 3 business unit.

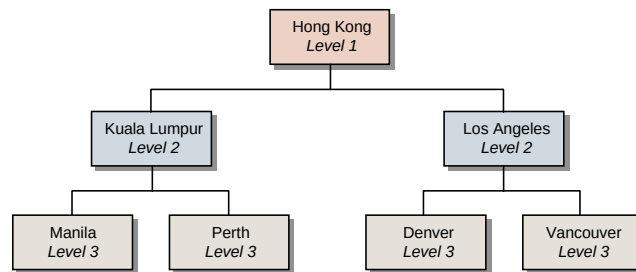
Although multilevel EMT involves complex transactions, most are processed automatically, with minimal user intervention. Once the system has been set up for multilevel EMT sales order processing, you create and modify sales orders in the same way you do using standard EMT.

The Auto EMT Processing field activates multilevel EMT. This field appears in:

- Item Master Maintenance (1.4.1)
- Item-Site Planning Maintenance (1.4.17)
- Supplier Data Maintenance (2.3.1)
- Sales Order Control (7.1.24)

When supported by EDI eCommerce, multilevel EMT can handle orders across multiple levels of an organization.

Fig. 9.17
Multiple Levels Within an Organization



In Figure 9.17, suppliers, items, and item-sites are set up in such a way that a line item on an EMT sales order received from Hong Kong at Kuala Lumpur automatically creates an EMT purchase order at another level (Manila or Perth). The system uses control and master data to determine that the domain has been set up for EMT order processing and is designated as a multilevel EMT business unit. There can be a mix of level 1, level 2, and level 3 sales orders residing in the same EMT domain at the same time

Organizational Roles at Multiple Levels

Each level plays a different role in multilevel EMT order processing.

- Level 1. Like the PBU in standard EMT, this is the level where EMT orders originate.

- Level 2. There can be any number of level 2 sites, depending on the characteristics of the supply chain. Most multilevel processing occurs at level 2 sites. A level 2 EMT sales order is both:
 - A secondary sales order to a level 1 business unit, and
 - A primary sales order to a level 3 business unit.
- Level 3. These sites are like SBUs in standard EMT. At level 3, there are no processing differences between multilevel and standard EMT.

Multilevel Restrictions

Multilevel EMT is restricted as follows:

- It works only in an EDI environment.
- Reports provide information from one level to another for EMT purchase orders and sales orders, but not across multiple levels.
- Credit flow can cross only one level.
- Configured items must have the same configuration across all levels within the supply chain.
- Change management is communicated level by level, one level at a time for some changes, and automatically for other changes. For example, a change at level 1 is automatically accepted at level 3 unless the order is picked, released to a work order, or shipped. If a change made at a lower level is rejected by an upper level, the orders are compromised and must be resolved manually.
- ASNs are processed through the original supply chain. For example, an ASN cannot be processed from a level 3 site directly to the end customer.
- If there is an error creating the secondary sales order at a lower level, the originator of the purchase order must open a new PO with correct data and reexport it.

Setup Considerations

You can control the extent to which multilevel sales orders are processed manually or automatically. An automatic SO process is appropriate when a business unit has well-defined links in the item supply chain. For example, an item may always be supplied by the same supplier. A manual SO process is appropriate when the supplier of a particular item varies from order to order.

Multilevel EMT supports automatic, manual, or a combination of automatic and manual sales order processing, depending on the requirements of the business units. This is achieved by providing controls at four key points in the EMT sales order processing cycle:

- An Auto EMT Processing field in Item Master Maintenance (1.4.1) determines whether EMT orders related to the item are created automatically.
- An Auto EMT Processing field in Item-Site Planning Maintenance (1.4.17) determines whether EMT orders related to the item-site are created automatically.
- An Auto EMT Processing field in Supplier Data Maintenance (2.3.1) determines whether EMT orders related to the supplier are created automatically.
- An Auto EMT Processing field in Sales Order Control (7.1.24) determines whether the creation of an EMT sales order across multiple levels is automated within the domain.

Several other differences between standard and multilevel EMT are discussed in the following sections.

Maintaining Sales Orders

You cannot add a new line to a secondary EMT sales order at a level 2 business unit. The only changes allowed at a level 2 business unit are the supplier and/or EMT shipment type.

Sales order lines can be deleted at any level. The effect of deleting an EMT sales order line is to cancel the corresponding EMT purchase order. This is similar to changing an EMT supplier. In a multilevel environment, some purchase orders and sales orders may be stranded and must be resolved manually.

Processing EMT Purchase Orders

A multilevel supply chain may use a combination of delivery methods to a customer. When this occurs, the EMT purchase order is referenced on the shipping documents, depending on the ship-to destination.

A sales order for a business unit that is at least two levels down may have three different purchase order references:

- The purchase order from the previous level that drove the demand
- The end customer's purchase order
- The purchase order for a ship-to destination

Change Management

Changes flow through multiple levels of a supply chain. Some changes are automatic. For example, changes to quantities made by a level 3 supplier flow automatically through level 2 business units, for review at level 1. Others require manual processing. For example, a change in the due date made at level 3 requires a review at level 1.

See "Change Records" on page 279.

There are three categories of change management involved when processing multilevel EMT sales orders:

- Changes to the quantity and due date on a sales order line.
- Changes to the EMT supplier or the EMT shipping type.
- Status changes triggered by activities to EMT orders at lower-level business units.

Change processing is different at each level within the supply chain.

- Quantity and due date changes can be initiated at level 1 and level 3 business units, but not at level 2 business units.
- Quantity changes are processed automatically through level 2 business units (top down and bottom up).
- Date changes are propagated automatically through level 2 business units.

- Status changes are propagated automatically through level 2 business units.
- Changes originating at a level 1 are automatically accepted at level 3.
- When a level 2 business unit receives an accept (or reject) message from a lower level business unit, the level 2 business unit acts on the message and passes the message up to the next level.

Quantity or Due Date Changes Initiated at Level 1

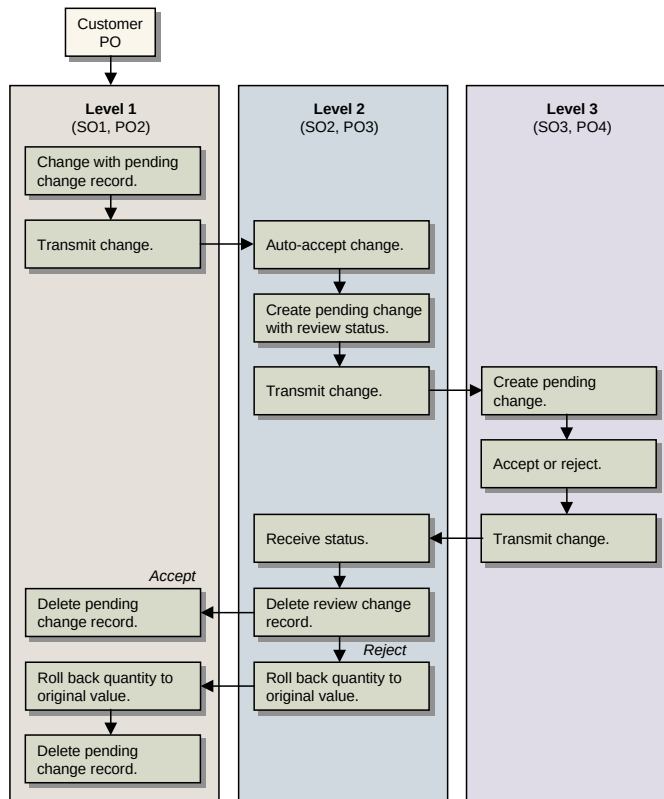
Quantity or due date changes can only be initiated at level 1 or level 3 business units, not at a level 2 business unit.

If the quantity or due date change is initiated at level 1, a change record with a Pending status is created in Sales Order Maintenance and the record is queued for export. The change is sent to the level 2 business unit by exporting an EDI PO change document.

When the change is received at level 2, the level 2 business unit exports a PO change document to level 3. The level 3 business unit now creates a change record with a pending status.

Figure 9.18 shows the process flow for a quantity or due date change initiated at level 1.

Fig. 9.18
Quantity or Due Date Changes Initiated at Level 1

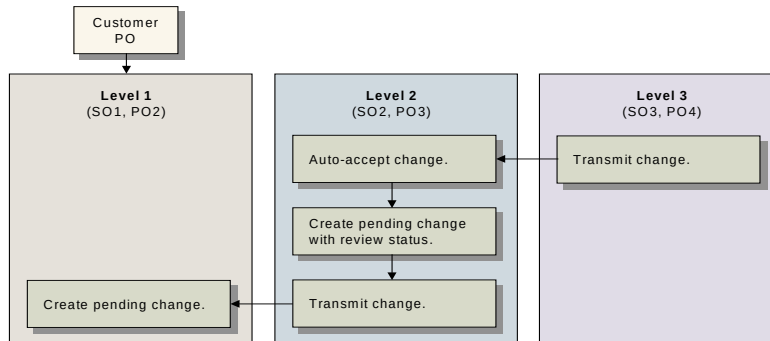


Quantity or Due Date Changes Initiated at Level 3

If the quantity or due date change is initiated at level 3, the level 3 business unit exports a PO Change Acknowledgment to level 2. The level 2 business unit automatically accepts the change and exports a PO Change Acknowledgment to level 1. The level 1 business unit accepts or rejects the change. If it rejects the change, the order will be compromised and must be resolved manually.

Figure 9.19 shows the process flow for a quantity or due date change initiated at level 3.

Fig. 9.19
Quantity or Due Date Changes Initiated at Level 3



Status Changes

Status changes occurring when an order is picked, shipped, or released to a work order can only be initiated at a level 3 business unit.

If the level 3 business unit initiates a status change to its order, the changes are exported to the level 2 business unit by a PO Change Acknowledgment. The level 2 business unit automatically accepts the change and exports a PO Change Acknowledgment to level 1. Whether the PBU can make changes after receiving a status change is determined by settings in Sales Order Control.

See Table 9.7 on page 283.

Processing Advance Ship Notices (ASNs)

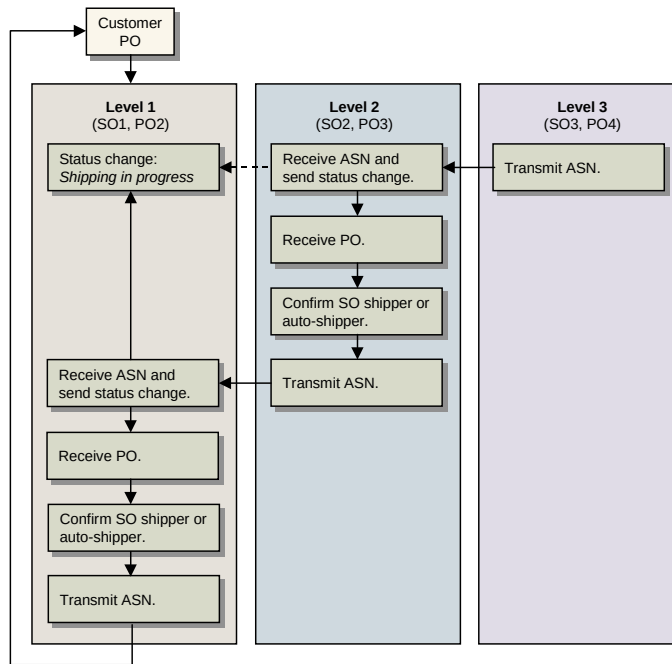
When an ASN is queued for receipt processing at a level 2 business unit, the level 1 business unit is notified that the shipment is in process. For direct shipments, the receipt of items automatically triggers the shipment to the next level. For transshipments, receipt of items does not automatically create a shipment, and the business unit at the next level up is notified of a pending shipment.

When an ASN for a transshipment is imported, a new change management status message is queued for export up to the next business unit. The message tells the next level that a downstream shipment has been processed.

If level 2 sends an ASN, the level 2 business unit also sends a status change message to level 1 so that the level 1 business unit knows it can make no further changes to the order.

Figure 9.20 shows the process flow for ASNs initiated at level 3.

Fig. 9.20
ASN Processing, Initiated at Level 3



Processing Supplier or Shipping Type Changes

Figure 9.21 shows the process flow for supplier or shipping type changes initiated at level 1.

Fig. 9.21
Supplier or Shipping Type Changes Initiated at Level 1

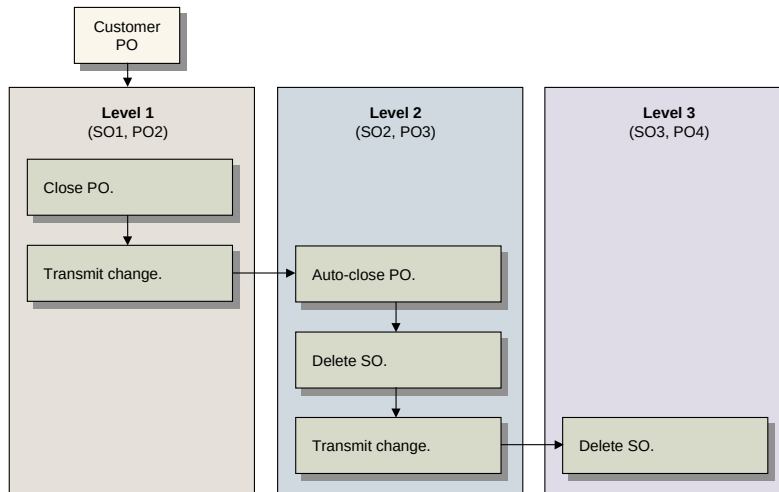


Figure 9.22 shows the process flow for supplier or shipping type changes initiated at level 2.

Fig. 9.22
Supplier or Shipping Type Changes Initiated at Level 2

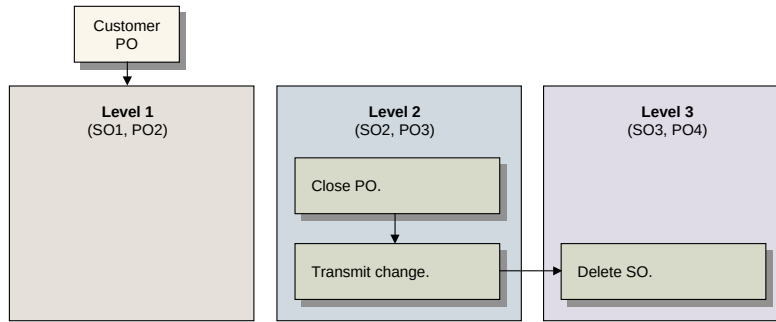
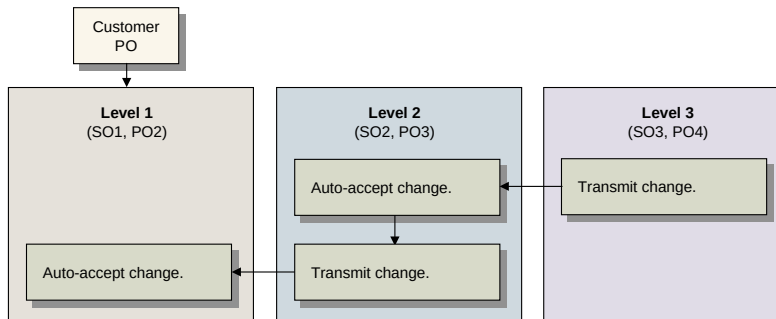


Figure 9.23 shows the process flow for supplier or shipping type changes initiated at level 3.

Fig. 9.23
Supplier or Shipping Type Changes Initiated at Level 3



Communicating EMT Documents with EDI

EMT begins at the PBU when you enter a confirmed sales order line for an item that has been set up for EMT processing. Either enter the sales order manually in Sales Order Maintenance (7.1.1) or use EDI eCommerce to import your customer's purchase order.

When the sales order is confirmed, EMT automatically generates the appropriate purchase orders, called EMT POs. You then use EDI eCommerce to export EMT POs to the supplier. When imported, these become secondary sales orders. In multilevel EMT, you can generate another purchase order from a secondary sales order, which is again exported to a lower level of the supply chain.

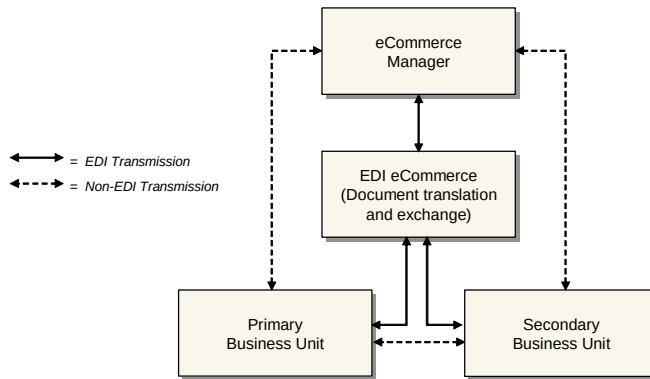
Throughout the life cycle of an EMT sales order, you exchange several other types of electronic documents with other business units:

- Purchase order acknowledgments
- Purchase order changes
- Purchase order change acknowledgments
- Advance ship notices (ASNs)

EMT and EDI eCommerce

When you use EDI eCommerce to communicate EMT documents with your trading partners, eCommerce Manager (35.22.13) lets you control processing of various types of EDI transmissions.

Fig. 9.24
EMT Document Transmissions



Exporting

When the system creates an EMT document such as a purchase order to be exported, it generates a record in the trq_mstr database table to indicate that the associated document is queued for export. When you run eCommerce Manager or one of the individual export programs on the Document Export menu (35.4), the system scans the trq_mstr table for these records. Each export field set to Yes in eCommerce Manager instructs the system to look for a different message type among existing trq_mstr records.

Several message types can be present in the trq_mstr table at the same time. Data is only exported if you specify Yes in the related field in eCommerce Manager or run the associated program from the Document Export menu.

Table 9.8 lists the kinds of message types stored in trq_mstr records. The system searches for sequences in a logical order designed to minimize potential conflicts in EMT processing. The Seq column indicates the order in which data is exported.

Table 9.8
Use of Export Transmission Records

Seq	Type	Message	Site
1	ORDRSP-I	PO Acknowledgment	SBU
2	ORDRSP-C	PO Change Acknowledgment (customer initiated)	SBU
3	ORDRSP-S	PO Change Acknowledgment (supplier initiated)	SBU
4	ORDERS	Initial PO	PBU
5	ORDCHG	PO Change	PBU
6	ASN	Advance Ship Notice	SBU
7	SCHREL	Supplier Schedule	N/A

Importing

When you set Import Documents to Yes in eCommerce Manager, the system scans the specified import directory for files with appropriate extensions and then imports them in the sequence shown in Table 9.9. This sequence is logically designed to minimize potential conflicts during EMT processing.

Table 9.9
Import Sequence

Seq	Message
1	Initial PO
2	PO Acknowledgment
3	PO Change Acknowledgment (customer initiated)
4	PO Change Acknowledgment (supplier initiated)
5	PO Change
6	Advance Ship Notice

Using eCommerce Manager

When you use eCommerce Manager (35.22.13) to specify the types of EMT documents to export, the system looks for transmission records in the `trq_mstr` table to determine which documents are queued for transmission. It then selects the documents and performs the standard eCommerce load/transform/transfer process to create the EMT document in the export directory specified in Transmission Group Maint (35.13.13) for this trading partner.

Note You can have any number of export fields, as well as Import Files, set to Yes at the same time.

If you want to export only selected documents instead of all the documents of a specific type that have a transmission record in `trq_mstr`, several eCommerce programs let you specify selection criteria for EMT-related document types:

- Purchase orders: Purchase Order Export (35.4.9)
- Purchase order acknowledgments: PO Ack Export (35.4.5)
- Purchase order changes: PO Change Export (35.22.16)
- Purchase order change acknowledgments: PO Change Ack Export (35.22.15)
- Advance ship notices (ASNs): Shipment ASN Export (35.4.1)

Message types stored in `trq_mstr` are listed in Table 9.8 on page 292.

After a document has successfully completed the transformation process, the system automatically deletes the associated record from `trq_mstr` so that the document cannot be accidentally selected again by eCommerce Manager.

eCommerce Manager also includes the timed-polling features offered by another eCommerce program—Export/Import Controller. By entering values in Polling Frequency per Hour and Hours of Polling, you can have the system automatically poll the import directory and the `trq_mstr` table for records or files to process.

To begin processing as soon as you execute the program, leave the two fields set to zero.

Fig. 9.25
eCommerce Manager (35.22.13)

Change these values to set up time-based automatic processing of selected EMT documents types.

To import files containing EMT documents, set Import Files to Yes. When the program runs either in real time or in timed-polling mode, the system looks in the import directory specified in eCommerce Control and begins processing any files it finds.

To select specific files from the import directory, use Document Import (35.1) from the EDI eCommerce menu.

Configured Products

Configured products assume their final form based on customer specifications. For these products, standard components are joined with a relatively small number of options or accessories to create a variety of product combinations. This chapter explains how configured products are supported.

Configured Products Overview 296

Illustrates how the Configured Products module lets you define and maintain configured products.

Defining Control Program Settings 297

Describes how Configured Products Control determines the kind of transactions that can be used for final assembly (FAS) orders and how final assembly orders are created for items that require serial-number control.

Defining a Configured Product 298

Describes how to set up the parent item in Item Master Maintenance, define the base product structure for the item in Product Structure Maintenance, and define feature sets in Configured Structure Maintenance.

Ordering a Configured Product 301

Describes how to order a configured product using Sales Order Maintenance.

Issuing Final Assembly Orders 303

Describes how to use Sales Order Release to Work Order to generate final assembly (FAS) work orders based on confirmed sales order lines for configured products of type assemble-to-order (ATO).

Shipping Configured Items 304

Describes how to ship configured items using Sales Order Shipments and related programs.

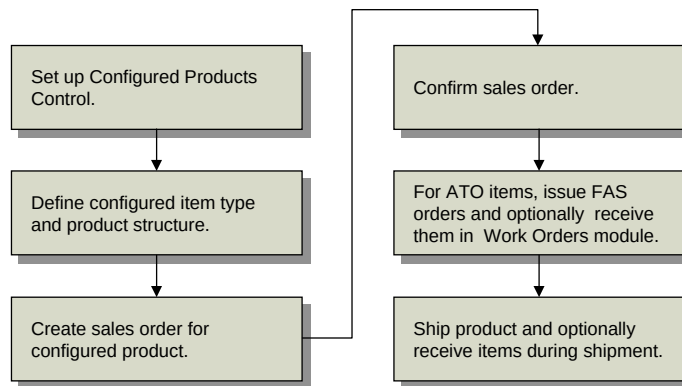
Master Scheduling 305

Discusses how to master schedule base items, options, and accessories for configured products using either single-level or multilevel scheduling.

Configured Products Overview

A configured product, such as an automobile, allows many end-item combinations to be made from a relatively small number of assembly options. The Configured Products module lets you define and maintain configured products. It also works with standard features to create orders for configured products, assemble them, and ship them to the customer.

Fig. 10.1
Configured Products Task Flow



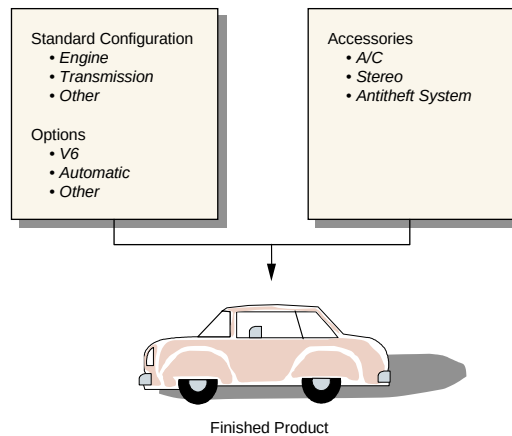
Configured products are assembled from lower-level items that can be master scheduled and made to stock. They should not be confused with products such as specialized scientific instruments or communication satellites, which are engineered to order. Actual production of configured products is controlled, not by a master schedule, but by an assembly schedule driven by customer orders. The master schedule is then focused on a manageable number of lower-level items.

There are two types of configured products: assemble to order (ATO) and kits. The configuration type determines how the product is managed in the system. ATO items are managed in the Work Orders module with final assembly (FAS) work orders. Kits can be shipped and backflushed in one step.

Note The system only supports kits in discrete sales orders—not customer scheduled orders.

An *option* is a choice between two or more versions of a standard component. Using a car as an example, choice of engine size is an option. Nonstandard components such as stereos or antitheft systems are considered *accessories*. Options and accessories are organized into *feature groups* such as engine, transmission, or electronics.

Fig. 10.2
Example Configured Product



Defining Control Program Settings

Configured Products Control (8.24) determines the kind of transactions that can be used for final assembly (FAS) orders and how final assembly orders are created for items that require serial-number control.

FAS orders can only be created for configured items that have been defined as assemble to order (ATO) in Item Master Maintenance (1.4.1). Therefore, the first three control program fields apply to ATO items only.

See page 299.

Fig. 10.3
Configured Products Control (8.24)

The screenshot shows the 'Configured Products Control' window. It has a title bar with 'Configured Products Control' and a standard window control set. Below the title bar is a menu bar with 'Configured Products Control:', 'Go To ~', and 'ACTIONS ~'. The main area contains four checkboxes with labels: 'Receive F/A in SO:' (checked), 'Receive F/A in WO:', 'Unit F/A Orders:', and 'Automatic Backflush:'.

Receive F/A in SO. Enter Yes to have sales order shipments automatically record a receipt on final assembly work orders. This does not happen for unit final assembly orders, because the system cannot know which of several orders to complete.

Receive F/A in WO. If Yes, you can receive items from FAS orders using Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12), maintaining complete component traceability for serial-numbered items.

Unit F/A Orders. Set to Yes only when separate (unit) final assembly work orders, each with an order quantity of one, should be created for multiple quantity orders of a serial-controlled configured product. This option may be necessary if full lot/serial traceability is required for serialized products. These items have Lot/Serial set to S in Item Master Maintenance.

Example A computer manufacturer has an expensive line of high-performance workstations that are serial-number controlled. The internal disk drive is also serial numbered. To ensure that the service department knows exactly which disk drive is included in each unit, each multiple-unit sales order must be broken into individual work orders.

When Unit F/A Orders is No, the system supports lot/serial traceability of components to a group of configured assemblies but not to the individual serial number.

If you are using the Service/Support Management module and track components of configured items in the installed base, this field should be set to Yes.

See *User Guide: QAD Service/Support Management*.

Note FAS orders for non-serial-controlled items are always created with a quantity equal to the line item quantity on the sales order, regardless of how Unit F/A Orders is set.

Automatic Backflush. Determines whether the component issue transactions for configured items that are shipped without a final assembly order are created without having to enter shipment information for each sales order line. These items must be defined as kits.

If Yes, when you use Sales Order Shipments (7.9.15) or Pre-Shipper/Shipper Confirm (7.9.5) for an order with a configured item that does not have a final assembly order, a component issue pop-up displays so that you can automatically backflush components. If the default quantity is not available for each component of a configured item, you manually process that line.

Defining a Configured Product

There are three aspects to defining a configured product:

- Setting up the parent item in Item Master Maintenance (1.4.1)
- Defining the base product structure for the item in Product Structure Maintenance (13.5)
- Defining feature sets in Configured Structure Maintenance (8.1)

Set Up the Parent Item

Configured items are identified with a Purchase/Manufacture code of C (configured) in Item Master Maintenance. They must be further identified as either kits or assembled to order (ATO) in the Configuration field.

Kit Configuration Type

In some instances, such as packaging, assembly of a configured item involves no more than finding components and grouping them together as a final product. If the lead time to do this is a day or less, a copy of a confirmed sales order may be enough to track the packaging operation.

Define these items as configuration type kit. A kit is a set of items that are picked for shipment. No real assembly takes place. The configured item is not itself a physical entity—it only exists as a logical superset of its components. The configuration defines the content of a kit, and a shipment contains the end items that comprise the kit.

Note The system only supports kits in discrete sales orders—not customer scheduled orders.

Kit items must be received during shipment. You cannot use final assembly orders to manage kits.

When you use Sales Order Shipments (7.9.15) or Pre-Shipper/Shipper Confirm (7.9.5) to ship a kit, you can backflush the components with the Issue Components pop-up. Set up this option in Configured Products Control.

See “Automatic Backflush” on page 298.

Assemble-to-Order Configuration Type

ATO items require more significant assembly time than kits and are managed with a final assembly (FAS) work order. Use FAS orders for products that have moderate to long lead times and require picklists and routings to control component issues and operation activity. The work orders provide visibility to material requirements planning, shop floor control, and capacity requirements planning.

The ATO item is a discrete end item in itself, produced from a combination of various components. In this case, the configuration defines components or ingredients of a finished product.

You cannot backflush components of an ATO item in shipping programs. Instead, you must issue the components to the FAS work order using Work Order Component Issue (16.10). Kit and ATO items can also be processed through the scheduled order programs, using the same component issue workflow as discrete sales orders.

Define the Base Components

Some components are required for the basic product. These items are neither an option nor an accessory.

While there may be several ways to add such components, they are typically defined as standard components using Product Structure Maintenance. Set the Reference field to a value such as Base or Required.

The Structure Code for standard components remains blank, allowing the cost of the components to be rolled up to the top-level product. Components of a configurable product that are added as regular component items are automatically set up as mandatory and default items.

Define Features and Options

Define configured products using Configured Structure Maintenance (8.1). This program has two sections. In the first, you identify the configured product, set up a feature code, and indicate whether the feature is mandatory. In the second, you identify options available for this feature. The system automatically identifies a configured item with an O (option) structure type.

The Mandatory and Default Option settings can be used together to define a *standard bill*. The standard bill represents the typical way the product is sold. During order entry, selecting the standard bill bypasses the configured product pop-ups.

Fig. 10.4
Configured Structure Maintenance (8.1)

Parent Item. Enter the number of the configured item. The value of Purchase/Manufacture for the item in Item Master Maintenance must be C (configured).

Feature. Enter a code identifying a set of options. Options are known as a feature set. For example, a car may have more than one engine option. You can set up a feature code called Engine, with the available engine choices being options of that feature code. During order entry, the system prompts you to select components from each feature set. This field corresponds to the Reference field in Product Structure Maintenance.

Mandatory. This field lets you define standard configurations. Enter Yes to indicate that a feature is required for a configured item. During order entry, the system displays a warning if a mandatory option is not selected.

Enter No to exclude an item from a standard configuration. Such items are typically accessories.

Component Item. Enter the item number for each option available for this feature.

Default Option. Yes indicates that this item is normally selected when this feature is included on a sales order. If Yes and Mandatory is Yes, the item is included in the standard bill. If Yes and Mandatory is No, it determines the default component of a nonstandard feature group selected during order entry.

Enter Yes to have the system select the component item for the standard bill of material. For example, in the case of a car, make the most popular engine model the default option.

Quantity Per. Enter the quantity of the component item normally used in the configured product. During order entry, the component quantity per is multiplied by the sales order quantity to determine the suggested quantity to select on the configuration. It can be changed manually.

The system creates a standard bill of material for items with Yes in both the Mandatory and Default Option fields. When you create a sales order for the configured product, you can use the standard bill of material or select individual components.

Ordering a Configured Product

Enter sales order information in Sales Order Maintenance (7.1.1) just as you would for a regular product. When you enter a configured line item—one with a Purchase/Manufacture code of C in Item Master Maintenance—a pop-up window appears.

See “Creating Sales Orders” on page 18 for more information.

Fig. 10.5
Configured Item Pop-Up



Standard Bill: ☒ Set to No to change standard configuration.

Effective Date: 04/27/2007

Final Assembly:

ID:

Configuration: ATO

Standard Bill. Enter Yes to have the system automatically configure the item with all its mandatory, default options. Enter No to define a bill of material.

Effective Date. Configured product structures are further qualified by an effective date. The default is the sales order due date. The date specified must be within the configured product structure’s effective start and end dates. Enter a question mark to have the system not consider effective dates. Enter start and end effective dates in Configured Structure Maintenance (8.1).

Final Assembly and ID. System-maintained fields recording the work order information for final assembly of ATO configured products only. The product configuration options are specified on the sales order and a work order is released from that sales order to build that specific assembly. To tie them together, the work order number and lot are recorded on the sales order.

Configuration. Enter the type of configuration—either ATO or KIT. The default is set in Item Master Maintenance. See “Set Up the Parent Item” on page 298.

When Standard Bill is Yes, normal sales order entry continues. When it is No, the Features pop-up displays so you can select a feature group.

Fig. 10.6
Feature Group Pop-up



Feature	Mandatory
Fastener	☒
Finish	☒
Length	☐

This value comes from the Mandatory field in Configured Structure Maintenance.

The system next displays all the options available in the selected feature group. An option defined in Configured Structure Maintenance as the default is marked with an asterisk.

Fig. 10.7
Option Selection Pop-up

Configured Item: 20001		Mandatory Feature: Length			
Item Number	Required	Selected	List Price	Disc%	Net Price
* A10 1 foot cord	10.0	10.0	20.00	0.0	20.00
A20 2 ft cord	10.0	0.0	40.00	0.0	40.00
A30 3 ft cord	10.0	0.0	60.00	0.0	60.00

Asterisk indicates default option.

The value entered for Selected can be any positive or negative quantity. For example, you can enter a negative value to delete a standard option, such as an automobile radio.

Important The default option of a mandatory feature group has an initial positive value. If you choose another option, you must enter a value in Selected for the option you chose *and* change the default option to zero.

At this time there is no expert configurator that verifies whether a particular combination of options is valid. It is possible to configure an order that cannot be manufactured—for instance, an automobile with both a 1.6-liter and 2-liter engine.

Cost and Price

When you finish selecting options, the system automatically calculates the cost and price of the configured product. It does this by adding the cost or price of the product to the costs or prices for each of the items in the configuration bill.

You can change List Price, Discount, and Net Price for options only. Items on the standard product structure (that is, items with a blank structure code) have already been considered in the configured parent's price.

When a configuration requires additional units of a standard item, you can change the quantity but not the pricing. Change the configured parent's price on the sales order to include the additional components, or add the component under another feature as an option. Prices for options are added to the line item list price.

Note Taxes for configured items are based on the characteristics of the parent item, not components.

The prices, discounts, and costs for components in a configuration bill are handled the same way as those for regular items on sales orders and sales quotations. Component prices and discounts take into account the currency and pricing information for the order or quotation, as well as the item's list price. Costing is based on the GL costs for the component item at the site. Since the component costs or sales order site might change, the system automatically rolls up the cost again when the product is shipped.

Modifying Configured Line Items

When modifying the order quantity for a configured item, you can review the previously selected components. After you change the quantity, a pop-up window appears. Set Review Bill to Yes. The system displays the sales order configuration and all other product structure alternatives.

Phantoms

Phantom structures—those with a product structure code of X or a BOM code parent (instead of an item number)—can create sales order bills if they meet either condition for a standard bill. The resulting configured item inherits the feature of the first level structure, regardless of the number of phantoms exploded.

See *User Guide: QAD Manufacturing*.

Configured Components

When components of the configured line item are themselves configured items, the system includes their mandatory defaults in the sales order bill.

Pending Invoice Maintenance

Pending Invoice Maintenance (7.13.1) does not handle components of configured products. Adding a configured item does not create a sales order bill and modifying a pending invoice line for a configured item does not modify the sales order bill. However, deleting a configured item in Pending Invoice Maintenance *does* delete the sales order bill.

Issuing Final Assembly Orders

Use Sales Order Release to Work Order (8.13) to generate final assembly (FAS) work orders based on confirmed sales order lines for configured products of type assemble-to-order (ATO). You cannot release kit items to a work order.

One FAS order for the same quantity as the sales order line is created for each line released, unless the item is serial-number controlled (Lot/Serial is S in Item Master Maintenance). In this case, the value of Unit F/A Orders in Configured Products Control determines work order quantity.

See *User Guide: QAD Manufacturing* for details on work orders.

FAS orders have a work order type code of F. Work order numbers for FAS orders are generated based on the related sales order and line numbers. For example, the number for an FAS order generated for line 3 of sales order SO5078 is SO5078.3.

The work order bill of materials for an FAS order is identical to the configuration bill defined in the sales order. The work order routing is set to the standard routing for the configured item.

See “Unit F/A Orders” on page 297.

Configuration Updates

You can modify a sales order configuration bill any time before releasing a final assembly order. When a final assembly order is created, its work order bill and the sales order configuration bill are synchronized, if not identical. If any later modifications are required, the configuration must be updated in both Sales Order Maintenance (7.1.1) and Work Order Bill Maintenance (16.13.1).

If you need to modify data on an FAS order, do so in Work Order Maintenance (16.1). For example, if a sales order for a configured product is canceled, you must manually cancel the associated work order and return the applicable components and assemblies to their appropriate inventory locations.

Shipping Configured Items

Using standard sales order shipping, you can ship a configured item in one of three ways:

- Use Sales Order Shipments (7.9.15) to ship the product and backflush its components. Use this method only if the configured item type is Kit rather than ATO.
- Receive a final assembly work order at the time of shipment using Sales Order Shipments (7.9.15). To do this, set Receive F/A in SO to Yes in Configured Products Control (8.24). Use this method for serialized items when there is only one work order for a sales order line.
- Receive the work order in finished goods inventory using Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12). Then ship the product from inventory using Sales Order Shipments (7.9.15). Use this method only when work orders are required for each unit of a sales order line item.

Before deciding on a method, review the costing issues that arise when there are configured products in inventory. Shipment automatically updates the quantity received on the FAS work order.

See “Finished Goods Inventory” on page 305.

Shipping in an Average Cost Environment

The previous shipment methods assume you are operating in a standard cost environment. If you are using average costs, you must manage shipments to avoid double booking of costs. Follow these steps:

- 1 Freeze the GL cost for the parent item of the configured structure. This ensures that the cost of the parent item remain zeros when its final assembly orders are closed through Work Order Accounting Close (16.21).
- 2 If previous Work Order Receipt (16.11) transactions exist, zero out these costs to prevent the doubling of costs for the optional items.
- 3 In Configured Products Control (8.24), set Receive FA in SO to Yes and Receive FA in WO to No.
- 4 Release the sales order to a final assembly work order (8.13).
- 5 Receive the final assembly work order at the time of shipment using Sales Order Shipments (7.9.15).
- 6 After shipping the configured product and executing Work Order Accounting Close, a residual cost may be left over for the optional items. This represents the difference between the cost of the components when they were issued to the work order and the cost of the components when the sales order line was shipped. Book this residual amount to the Cost of Goods Sold (COGS) account.

Finished Goods Inventory

When a configured product is received to and shipped from inventory as a finished good, GL transactions to work-in-process (WIP), inventory, and cost-of-goods-sold are based on the configured cost calculated for the item, not the standard cost for the item itself. However, an inventory valuation report uses the standard cost for the item itself, not the configured cost.

This can result in a discrepancy between the account balance for inventory in the GL and the amount on an inventory valuation report. When configured products are in inventory, the inventory valuation report usually understates the value of inventory because it does not include the value of components for those products.

To avoid such a discrepancy, ship all configured products immediately after they are received into inventory. This precaution is especially important at month-end. If a configured product cannot be shipped on the same day it is received, it should be left in work-in-process.

It is impossible to determine the configuration of an item in inventory unless it can be linked back to a specific final assembly order. To provide some traceability when a unit on a final assembly order is received into inventory, assign it a lot or serial number based on the final assembly order.

Using Shippers with Configured Products

If you typically ship with containers and shippers, you can use any of the following programs to create and process shippers for configured products:

- Picklist/Pre-Shipper–Automatic (7.9.1)
- Pre-Shipper/Shipper Workbench (7.9.2)
- Pre-Shipper/Shipper Print (7.9.4)
- Pre-Shipper/Shipper Confirm (7.9.5)

You can create a pre-shipper that allocates the kit/ATO components in Picklist/Pre-Shipper–Automatic, and print an exploded list. There are some differences in the way kits and ATOs are processed:

Kits. Once you have created the pre-shipper, you can use the Pre-Shipper/Shipper Workbench to add new component items to a Kit configuration item. When the shipper is confirmed, all allocated components are relieved.

ATOs. Once you have created the pre-shipper, you must issue the work order components. When the work order components are issued, all allocated components are relieved.

Note If Receive F/A in WO is Yes in Configured Products Control, you can issue the ATO items directly, since the receipt was already performed in the Work Orders module.

Master Scheduling

You can master schedule base items, options, and accessories for configured products using either single-level or multilevel scheduling.

Configured items can be planned directly using single-level master scheduling techniques, or they can be planned using planning bills and forecast percentages to create production forecasts.

Option bills are treated in the same way as planning bills by master scheduling. The forecast percentage and quantity per for the option determines the production forecast. However, unlike components in a planning bill, independent demand can often exist for an option.

For example, a DVD burner is an option for a computer model. You enter a forecast percentage indicating how frequently a DVD burner is included when a computer is purchased. DVD burners can also be sold as a separate item.

When you sell a DVD burner separately, it does not consume production forecast. If, however, you have an independent forecast for the DVD burner, not derived from upper-level requirements, it will be consumed.

If you know that an option will be sold both by itself and as part of another item, you can plan production by either increasing the forecast percentage associated with the product structure or entering independent forecast in Forecast Maintenance.

Sales Analysis

Use Sales Analysis to analyze results of sales order shipment transactions, track salesperson performance, and generate sales reports.

Sales Analysis Overview 308

Describes the concepts, features, and workflow of Sales Analysis.

Using Salesperson Quota Maintenance 309

Outlines how to use Salesperson Quota Maintenance to add and maintain monthly quotas for salespeople.

Using Sales Analysis Inquiries 309

Outlines how to use Sales Quota Inquiry and Sales Margin Inquiry.

Using Sales Analysis Browsers 310

Describes how to use sales analysis browsers.

Using Sales Analysis Reports 310

Describes how to use sales analysis reports.

Changing the Fiscal Year 312

Outlines how to use Fiscal Year Change to change the starting calendar month for sales reporting.

Deleting/Archiving Sales History 313

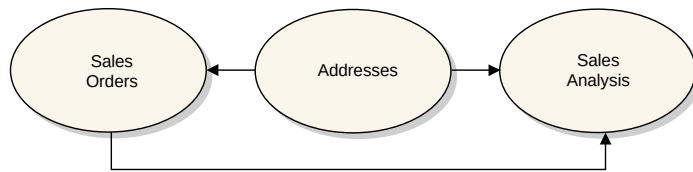
Details how to use Sales Analysis Delete/Archive to delete/archive sales history for previous fiscal years.

Sales Analysis Overview

Sales Analysis can be integrated with Sales Orders/Invoices to generate data on year-to-date sales, margins, costs, and quotas. Sales Analysis enables you to:

- Itemize sales by item, product line, customer, ship-to, and salesperson
- Maintain monthly and year-to-date totals for quantity sold and cost of sales
- Analyze salesperson quotas for a given month
- Compare salesperson quotas and actual sales
- Track sales of memo or non-inventory items

Fig. 11.1
Sales Analysis Flow



Fiscal Year and Calendar Year Reporting

Sales Analysis reporting is based on a 12-month year. The default mode is calendar year reporting. In this mode, all references to fiscal year are regarded as calendar year. Fiscal year reporting may be used if:

- The fiscal year consists of exactly 12 periods, and
- Each fiscal period corresponds to a calendar month.

In such a case, Fiscal Year Change (7.17.22) defines the calendar month (1 through 12) that corresponds to the first period of a fiscal year.

Using Salesperson Quota Maintenance

Use Salesperson Quota Maintenance (7.17.1) to add and maintain monthly sales quotas for salespeople.

Fig. 11.2

Salesperson Quota Maintenance (7.17.1)

	Quota	Sales	Cost
January:	5,000	0	0
February:	5,000	0	0
March:	5,000	0	0
April:	5,000	0	0
May:	6,000	0	0
June:	5,000	0	0
July:	5,000	0	0
August:	5,000	0	0
September:	5,000	0	0
October:	5,000	0	0
November:	5,000	0	0
December:	5,000	0	0
Total:	61,000	0	0

Salespsn1. Enter the code for the salesperson whose quota is being added or modified. The system accepts quotas for primary salespeople only.

Year. Enter the quota year. The default is the current fiscal year.

Quota. Enter a quota amount for each month.

Sales. The system displays the amount of sales credited to this salesperson each month.

Cost. The system displays the cost of sales for each month.

Totals are given for quota, sales, and cost.

Using Sales Analysis Inquiries

Salesperson Quota Inquiry

Use Salesperson Quota Inquiry (7.17.2) to generate a screen or printed list of monthly quotas and quota percentages for a salesperson for a specific year. Totals are given by quota, sales amounts, over/under amounts, and quota percentage.

The Over/Under column displays the difference between the quota and the sales amount. The Quota% displays the percentage of quota met.

Salesperson Margin Inquiry

Use Salesperson Margin Inquiry (7.17.3) to generate a screen or printed list of monthly quotas and gross margins for a salesperson for a specific year. Totals are given by quota, sales amounts, margin, and margin percentage.

The margin represents the difference between amount of sales and cost of sales. The margin percentage represents the percentage difference between amount of sales and cost of sales.

Using Sales Analysis Browsers

Three sales analysis browsers display year-to-date sales based on different criteria:

- Use Sales By Salesperson Browse (7.17.5) to display a list of year-to-date sales for a salesperson.
- Use Sales By Customer Browse (7.17.13) to display a list of year-to-date sales to a customer.
- Use Sales By Item Browse (7.17.17) to generate a screen or printed list of year-to-date sales for an item.

Using Sales Analysis Reports

Salesperson Ranking Report

Use Salesperson Ranking Report (7.17.6) to produce a report listing salespeople by year-to-date sales for a particular year. You can select salespersons based on a number of criteria: identification number, territory, year-to-date sales amounts, and address list type.

The report can be sorted by sales amount, salesperson, or margin. Enter:

- Sales (the default sort order) to sort the report by sales amounts from highest to lowest.
- Code to sort by salesperson code.
- Enter Margin to sort by gross margin percentage from highest to lowest.

The report displays year-to-date sales, gross margin, and margin percentage.

Sales by Site Report

Use Sales by Site Report (7.17.10) to produce a report listing year-to-date sales by site. Sales to include can be selected by site, product line, item number, item group, and item type.

You must specify an ending fiscal year and period for the report:

Ending Period. Enter the last monthly period to appear on the report. The default is the period previous to the current fiscal period. For example, if the fiscal year begins in October, and sales are reflected through September, enter an ending period of 12.

Ending Fiscal Year. Enter the last fiscal year to appear on the report. The default is the fiscal year associated with the default fiscal period.

This report can be printed in a detailed or summary format and offers a number of display options:

Show Qty. Includes the monthly sales quantity on this report. This option is most useful when Detail is Yes. The quantity of each item sold to the customer at that ship-to address displays. When Summary is Yes, the total quantity sold of each product line is printed.

Show Sales. Includes the total monthly sales amount on the report.

Show Margin. Includes the monthly sales margin amount on the report. This is useful for evaluating profitability by product line, customer, and ship-to address. Margin is calculated as the total sales amount less the cost of sales.

Show Margin %. Includes the margin percentage on the report. The percentage is calculated as the margin amount divided by the sales amount, multiplied by 100%.

Sales by Customer Report

Use Sales By Customer Report (7.17.14) to produce a report listing year-to-date sales by customer. Sales to include can be selected by range of customer, product line, item number, customer type, region, and salesperson.

This report can be printed in a detailed or summary format and offers the same display options as the Customer By Site Report.

The report sorts 12 months of activity by product line within customer ship-to.

Qty. The quantity shipped of the product line, for this customer, for this month.

Sales. The sales amount shipped of the product line for this customer, for this month.

Margin. The gross margin for the sales amount shipped for this customer, for this month.

Margin%. The gross margin percentage for the sales amount shipped for this customer, for this month.

Customer Ranking Report

Use Customer Ranking Report (7.17.15) to produce a report ranking customers by year-to-date sales. Select customers to include by range of number, customer type, region, year-to-date sales, and salesperson.

The report can be sorted by sales amount, customer, or margin. Enter:

- Sales (the default sort order) to sort the report by sales amounts from highest to lowest.
- Customer to sort by customer code.
- Enter Margin to sort by gross margin percentage from highest to lowest.

The report displays customer year-to-date sales amounts, gross margin amount, and margin percentage. Customer information also displays, including type, and credit limit, the open accounts receivable balance, the primary salesperson code, and the customer region.

Sales by Item Report

Use Sales By Item Report (7.17.18) to produce a detailed report on sales for particular items. Select items to report by range of product lines, item numbers, item groups, and item types. Other input fields are the same as Sales By Site Report.

The report sorts 12 months of activity by product line within customer ship-to. Totals are given by customer and product line.

See “Sales by Site Report” on page 310 for details.

Item Ranking Report

Use Item Ranking Report (7.17.19) to produce a report listing items by year-to-date sales. Select items to include by range of number and product line, and by year-to-date quantity, sales amount, and cost.

The report can be sorted by sales amount, quantity, or margin. Enter:

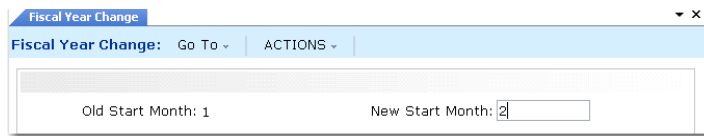
- Sales (the default sort order) to sort the report by sales amounts from highest to lowest.
- Quantity to sort by item quantity.
- Enter Margin to sort by gross margin percentage from highest to lowest.

The report displays year-to-date quantity sold and sales amount, gross margin amount, margin percentage, and current quantity on hand.

Changing the Fiscal Year

Use Fiscal Year Change (7.17.22) to change the starting calendar month for sales reporting.

Fig. 11.3
Fiscal Year Change (7.17.22)



Sales Analysis reporting is based on a 12-month year. The default mode is calendar year reporting. In this mode, all references to fiscal year are regarded as calendar year. Fiscal year reporting may be used if:

- The fiscal year consists of exactly 12 periods, and
- Each fiscal period corresponds to a calendar month.

In such a case, Fiscal Year Change defines the calendar month (1 through 12) that corresponds to the first period of a fiscal year.

Old Start Month. The old fiscal year start month displays.

New Start Month. Enter the new fiscal year start month.

Deleting/Archiving Sales History

Use Sales Analysis Delete/Archive (7.17.23) to delete/archive sales history for previous (fiscal) years.

Fig. 11.4

Sales Analysis Delete/Archive (7.17.23)

Sales Analysis Delete/Archive

Current Fiscal Year: 2007
 Fiscal Start Month: 1
 Year: 2006 To: 2006
 Delete: ☒
 Archive: ☒
 Archive File: Output:

Year/To. Enter an inclusive range of years to be deleted and/or archived. The system does not delete the current year sales history.

Delete. Enter Yes to delete the sales history for the years specified. The default is No.

Archive. Enter Yes to archive sales history for the years specified to a flat file. The default is Yes. This disk file can be copied to tape for off-line storage. If needed, you can reload the data using Archive File Reload (36.16.5).

Archive File. If Archive is Yes, the system displays the file name to be used. The file name is saYYMMDD.hst where sa is the record type and YYMMDD is the archive date. If the file does not exist, it is created. If it does exist, the system appends to it.

Legal Documents

This chapter covers the following topics:

***Legal Documents Overview* 316**

Introduces legal documents concepts, features, and workflow.

***Implementing Legal Documents* 319**

Describes the steps for setting up the system for generating legal documents.

***Creating Legal Documents* 325**

Describes the functions that generate legal documents.

***Printing Legal Documents* 328**

Describes how to use Legal Document Print to print generated legal documents.

***Cancelling Legal Documents* 328**

Describes how to cancel legal documents.

***Deleting/Archiving Legal Documents* 328**

Details how to use Legal Document Delete/Archive to delete legal documents from the system.

***Country-Specific Legal Documents* 329**

Describes considerations for country-specific legal documents.

Legal Documents Overview

In some countries, transportation of merchandise requires a document with specific numbering rules, information, format, and layout to prove legality and possession of the inventory being shipped, received, or moved. Typically, the content of this legal document includes shipping information such as ship-from address, ship-to address, item number and description, quantity, and so on. The legal document may also contain tax, freight, or other additional information. The legal document is commonly generated along with the shipper.

The generic term *legal document* is used to refer to various inventory movement documents that are legally required in different countries. However, when it comes to specific countries, the legal document is called different names, and its purpose, scope, content, and format may all vary from country to country. Here are some examples of country-specific legal documents:

- In Brazil, *Nota Fiscal* is a legal document mandatory for shipping and receiving of any material shipment, including non-sales inventory such as service material orders and purchase order returns. The legal document not only contains complete shipping information, but also tax information, values, and accounts receivable (during shipping) or accounts payable (during receiving) details, such as customer invoice number, due dates, and installments if applicable. *Nota Fiscal* virtually replaces the invoice as a debt instrument in the shipping process and is used to calculate related taxes.
- In Argentina, a document called *Remito* is legally required for shipping transactions as a proof of legality of inventory movement for transportation purposes. The legal document contains shipping information (ship-to address, freight carrier, and shipped items) that supports calculations of retained tax.
- In Poland, the *Dokumenty magazynowe* legal document is required not only for shipping and receiving transactions, but also for all inventory movements within the company.

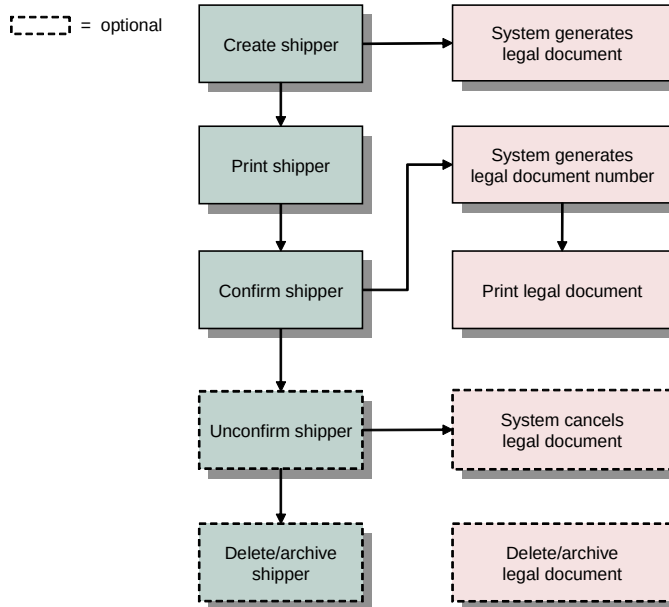
The system provides a common framework for you to implement appropriate legal documents specific to your country, if required. The system also ships with standardized country-specific legal document features that can be turned on if they apply to your country.

Legal Document Life Cycle

The legal document is basically an inventory movement document and shares a similar processing flow with the shipper.

The following diagram illustrates the legal document life cycle in relation to the shipper.

Fig. 12.1
Legal Document Life Cycle



- 1 When a shipper is created, the system automatically generates a legal document. However, no legal document number is assigned at this time.
- 2 After you print and confirm the shipper, the system generates a legal document number using your specified NRM sequence and assigns it to the legal document.
- 3 Depending on your legal document control settings, you can either print the legal document immediately after shipper confirm or print it later using Legal Document Print (7.10.4).
- 4 Depending on the Legal Document Cancel Time Fence setting in Legal Document Control (7.10.24), the system may automatically cancel the legal document when the shipper is unconfirmed.
- 5 Just as with shippers, you can delete legal documents from the database and archive them when the online records are no longer needed.

Legal Document Formats

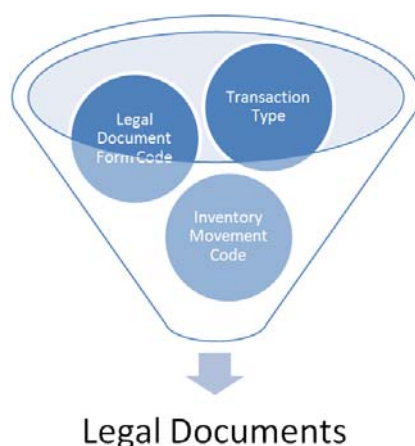
Similar to document formats for shippers and master bills of ladings, document formats for legal documents also identify special processing and printing requirements. Specific information in a legal document is usually related to whether the document supports an issuing transaction or a receiving transaction and depends on detailed local legal requirements.

A combination of the following factors determine the exact print output of a legal document:

- Transaction type
- Inventory movement code (transaction flow)
- Legal document form code identifying country-specific document formats

The following diagram illustrates the above-mentioned three elements as the input and the legal document in a particular format as the output.

Fig. 12.2
Legal Document Format



Since legal document content, format, and layout vary by country and sometimes by company, the system provides a number of country-specific legal document templates that can be readily tailored to meet unique customer-specific formatting and printing requirements.

Currently, QAD provides legal document templates for these countries: Brazil, Poland, Chile, Argentina, Turkey, and Thailand.

Legal Documents Menu Listing

Table 12.1 lists the functions available for setting up and using the legal documents features.

Table 12.1
Legal Documents Programs

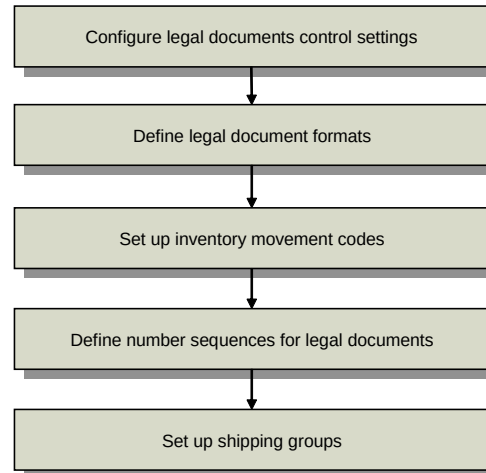
Number	Menu Label	Program
7.10.2	Legal Document Report	soldrpt.p
7.10.3	Legal Document Browse	ldbr001.p
7.10.4	Legal Document Print	gpldprt.p
7.10.9	Stock Card by Location	soldstcl.p
7.10.10	Stock Card with Cost	soldstcc.p
7.10.11	Stock Card	soldstcd.p
7.10.12	Received Legal Document Report	soldrcrp.p
7.10.13	Simultaneous Operation Maint	soldopmt.p
7.10.23	Legal Document Delete/Archive	gpdaldis.p
7.10.24	Legal Document Control	soldpm.p
5.20.24	Purchase Legal Document Control	poldpm.p

Most legal documents functions are grouped under the Legal Documents Menu (7.10). However, some legal documents fields and options are scattered in other related functions.

Implementing Legal Documents

Use the following general steps to set up the system for generating legal documents:

Fig. 12.3
Implementing Legal Documents



Note To implement legal documents in your system, you must use the global shipping functionality.

Configuring Legal Documents Control Settings

Use Legal Document Control (7.10.24) to configure settings that affect the generation and printing of legal documents as well as other legal documents-related features.

Fig. 12.4
Legal Document Control (7.10.24)

Legal Document Control

Go To Actions Copy Print Preview

Legal Document Form Code: 11

Legal Document Cancel Time Fence: 1

Days to Retain Sales Order After Invoicing: 0

Update Effective Date: ☒

Print Legal Document: ☒

Maintain Operation Type in Tax Usage: ☒

Allow Same NRM for Multiple Addresses: ☐

Legal Document Form Code. Specify the default legal document form code used in Document Format Maintenance (2.18.13).

Enter a two-digit numeric form code that uniquely identifies a country-specific legal document type. When you enter a valid form code, the legal document type description is displayed next to the form code.

Some countries have legal requirements to print legal documents with specific numbering rules, information, formats, and layouts when issuing, receiving, and/or moving goods. The form code identifies the appropriate printing procedure.

A valid form code is supported by a legal document generation program file installed in your system. If the file is not found, an error message displays.

Currently, the system supports the following form codes: 11, 21, 31, 41, and 51. While these form codes primarily address the legal document formatting requirements of Poland, Chile, Argentina, Turkey, and Brazil respectively, they can also be used in other countries where applicable.

Legal Document Cancel Time Fence. Specify the number of days after the creation date within which legal documents can be cancelled during shipper unconfirm. Legal documents cannot be cancelled outside this time fence.

If 0, legal documents cannot be cancelled regardless of how recently they were created.

Days to Retain Sales Order After Invoicing. Specify the number of days after invoice post a fully shipped sales order can be deleted in Completed Sales Order Delete. Completed sales orders within this time frame cannot be deleted.

If 0, completed sales orders are automatically deleted.

Update Effective Date. Specify whether the effective date can be updated in Pre-Shipper/Shipper Confirm. Enter Yes to allow update; otherwise, enter No.

Print Legal Document. Specify whether you want to print legal documents along with shippers by default.

This value defaults to the Print Legal Document option in the functions that create confirmed shippers.

A legal document is typically generated when a shipper is created and assigned a document number when the shipper is confirmed. When a shipper is confirmed, the system provides you with the option to immediately print the legal document along with the shipper.

Maintain Operation Type in Tax Usage. This field is specific for Brazil legal documents.

Enter Yes to enable the following legal documents features specific for Brazil:

- Display the Legal Information frame in Tax Usage Maintenance (29.1.9).
- Enforce that the tax usages specified in Simultaneous Operation Maintenance (7.10.13) must have the operation type of 11 Sales or 12 Other. For information on Simultaneous Operation Maintenance, see “Printing Two Legal Documents for a Single Shipment” on page 332.
- Dictate the mandatory use of tax usage with operation type set to 11 Sales or 12 Other when you process retrobilling in Retrobill Report (7.13.3). For information on retrobilling, see “Retrobilling” on page 333.

Allow Same NRM for Multiple Addresses. Specify whether it is allowed to assign the same NRM sequence to multiple addresses with different Federal Tax IDs.

Yes: You can assign the same NRM sequence to multiple addresses in Legal Document NRM (36.2.21.9).

No: The same NRM sequence can be assigned to multiple addresses only when these addresses are associated with the same Federal Tax ID. When you assign an NRM sequence to an address in Legal Document NRM (36.2.21.9), the system checks whether the sequence has already been assigned to another address with a different Federal Tax ID. If so, the system displays an error message and prevents you from proceeding.

The default is Yes.

Defining Legal Document Formats

Use Document Format Maintenance (2.18.13) to define the format of legal documents to be printed along with shippers.

Fig. 12.5
Document Format Maintenance (2.18.13)

Document Type. Choose shp.

Legal Document Form Code. Enter a two-digit numeric form code that uniquely identifies a country-specific legal document type. When you enter a valid form code, the legal document type description displays next to the form code.

The default code is specified in Legal Document Control (7.10.24).

Some countries have legal requirements to print legal documents with specific numbering rules, information, formats, and layouts when issuing, receiving, and/or moving goods. The form code identifies the appropriate printing procedure.

A valid form code is supported by a legal document generation program file installed in your system. If the file is not found, an error message displays.

Currently, the system supports the following form codes: 11, 21, 31, 41, and 51. While these form codes primarily address the legal document formatting requirements of Poland, Chile, Argentina, Turkey, and Brazil respectively, they can also be used in other countries where applicable.

Legal Document Max Items. Specify the maximum number of item lines allowed in a single shipping transaction.

When 0, this field has no effect; when greater than 0, the system limits the number of lines on a shipper to this number. The default is 0.

This field also affects pre-shipper generation. When the system is supposed to generate legal documents along with the shipper:

- This setting overrides the Max Lines on a Pre-Shipper field in Container/Shipper Control (7.9.24).
- When you generate pre-shippers in Picklist/Pre-Shipper – Automatic (7.9.1), this field controls the number of lines on a pre-shipper and automatically splits a pre-shipper into two or more pre-shippers when the maximum line limit is reached.

Setting Up Inventory Movement Codes for Legal Documents

Each inventory movement code has a transaction flow attribute that indicates the logistical flow direction. This is key information for legal documents because it is one of the determinants of whether or not to generate a legal document in a transaction, and if so, the particular content, format, and layout of the printed legal document.

Use Inventory Movement Code Maintenance (1.1.9) to define inventory movement codes with appropriate transaction flow attributes required by legal documents.

For more information about defining inventory movement codes, see “Define Inventory Movement Codes” on page 90.

Fig. 12.6
Inventory Movement Code Maintenance (1.1.9)

Transaction Flow. Specify the direction of the inventory movement from a business perspective:

- Inbound: Inventory moves into the site/plant and may require receiving legal documents.
- Outbound: Inventory moves out of the site/plant and may require issuing legal documents.
- Internal: Inventory movements that do not require any legal documents.

Sometimes, a transaction that requires legal documents in one country does not have such requirements in another. For example, a work order receipt that reports production of finished goods is subject to legal documents in Poland, but this is not the case in Brazil and Argentina. Therefore, in Poland, the work order receipt should be defined as an inbound transaction, but it can be configured otherwise in Brazil and Argentina.

The transaction flow attribute can also be used to facilitate security setup. You can more easily distinguish receiving and issuing activities from internal transaction activities when implementing access control.

Defining Number Sequences for Legal Documents

- 1 Create sequences and define sequence parameters for legal documents using Number Range Maintenance (36.2.21.1). NRM uses a unique sequence ID to retrieve data and generate new numbers for legal documents.

Specify `abs_id.LegalDoc` as the target dataset for legal documents.

For information on setting up NRM sequences, see *User Guide: QAD System Administration*.

Fig. 12.7
Number Range Maintenance (36.2.21.1)

Number Range Maintenance X

Go To Actions Copy Print Preview

Sequence Master

Sequence ID: ARG

Description: Argentina legal documents sequence

Target Dataset: abs_id.LegalDoc

Internal: ☒

Allow Discarding: ☒ Effective Date: 1/12/2009

Allow Voiding: ☒ Expiration Date:

Segment List

Nbr	Type	Settings	Control
1	FIXED	ARG	
2	INT	00001,99999,00001,00001	

Integer Segment Editor

New Seg Nbr: 2

Minimum Value: 1

Maximum Value: 99999

Initial Value: 1

Reset Value: 1

Delete Back Next

Target Dataset. Use abs_id.LegalDoc as the target dataset.

Internal. Choose Yes.

2 Associate the legal documents sequence IDs with ship-from address codes in Legal Document NRM (36.2.21.9).

Use Legal Document Numbering Range Maintenance to maintain site - NRM sequence relationships for legal documents. Legal documents can use multiple NRM sequences at one site or location represented by a physical address. You specify a default NRM sequence to use when generating legal document sequence numbers and can change the sequence as needed.

The Allow Same NRM for Multiple Addresses setting in Legal Document Control (7.10.24) determines whether you can assign the same NRM sequence to multiple addresses with different Federal Tax IDs.

Note Only sites or locations with physical addresses can be assigned legal document NRM sequences.

Fig. 12.8
Legal Document NRM (36.2.21.9)

Address. Enter the company address that represents the actual physical address of the ship-from site or location. This address is required for legal documents accompanying movements of goods between sites or locations that are physically separated.

Sequence ID. Enter an NRM sequence ID used for generating legal documents at the current address. When you enter a valid sequence ID, its description displays in the Description field. You can associate multiple NRM sequences with an address.

NRM sequence IDs for legal documents are defined in Number Range Maintenance and use the `abs_id.LegalDoc` dataset.

Transaction Flow. Specify the direction of the inventory movement from a business perspective to determine if the transaction requires any legal documents, and if so, what type of legal documents.

- Inbound: Inventory moves into the site/plant and may require receiving legal documents.
- Outbound: Inventory moves out of the site/plant and may require issuing legal documents.

Sometimes, a transaction that requires legal documents in one country does not have such requirements in another. For example, a work order receipt that reports production of finished goods is subject to legal documents in Poland, but this is not the case in Brazil and Argentina. Therefore, in Poland, the work order receipt should be defined as an inbound transaction, but it can be configured otherwise in Brazil and Argentina.

Form Code. Enter a two-digit numeric legal document form code that uniquely identifies a country-specific legal document format. The default code is specified in Legal Document Control (7.10.24).

Currently, the system supports the following form codes: 11, 21, 31, 41, and 51. While these form codes primarily address the legal document formatting requirements of Poland, Chile, Argentina, Turkey, and Brazil respectively, they can also be used in other countries where applicable.

Default. Enter Yes to set this NRM sequence as the default legal document numbering sequence for the current address; otherwise, enter No.

Setting Up Shipping Groups for Legal Documents

The combination of shipping group, transaction type, inventory movement code, and legal document format determines whether legal documents will be generated along with shippers for a specific type of transaction at a particular site, and if so, the exact content, format, and layout of the legal documents.

Set up proper inventory movement details in Shipping Group Maintenance (2.18.1).

For information on defining shipping groups, see “Define Shipping Groups” on page 93.

Fig. 12.9

Shipping Group Maintenance (2.18.1)

The screenshot shows the 'Shipping Group Maintenance' window. At the top, it displays 'Shipping Group: LDSO' and 'Description: LDSO'. Below this, 'Auto Transfers' is checked, and 'Master Bill Sequence ID: MBOL' is shown. The main section is titled 'Inventory Movement Details' and contains a table with columns: Inventor, Trans, Default, PS Seq, Ship Seq, Format, Carrier, and Multi. The table lists several transaction types, with 'in-do' selected and its 'Default' checkbox checked. Below the table, there is a summary row for 'ARG-UNP' with 'ISS-UNP' as the transaction type, 'SHPLD' as the ship sequence, and 'ARG' as the format. At the bottom right, there are 'Back' and 'Next' buttons.

Inventor	Trans	Default	PS Seq	Ship Seq	Format	Carrier	Multi
ARG-UNP	ISS-UNP	☐		SHPLD	ARG		☐
I-SORT	ISS-SO	☐	PRE	SHPLD	BRA		☐
I-UNPRT	ISS-UNP	☐		SHPLD	BRA		☐
in-do	RCT-DO	☒		SHIP	pol		☐
NI-SO	ISS-SO	☐	PRE	SHPLD	BRA		☐

Inventor	Trans	Default	PS Seq	Ship Seq	Format	Carrier	Multi
ARG-UNP	ISS-UNP	☒		SHPLD	ARG		☐

Creating Legal Documents

After you have properly set up the system for legal documents, any function that generates shippers will enable you to generate legal documents along with the shipper.

The following functions that generate shippers also let you generate legal documents:

Issuing transactions

- Picklist/Pre-Shipper - Automatic (7.9.1)
- Pre-Shipper/Shipper Workbench (7.9.2)
- Sales Order Shipper Maintenance (7.9.8)
- Unplanned Issue (3.7)
- Item Transfer (Menu 3.4)
- Distribution Order Shipments (12.17.22)
- Sub Shipper Maintenance (18.22.5.5)
- Material Order Maintenance (10.7.1 and 11.11.1)
- Material Order Shipments (10.7.6 and 11.11.6)
- Call Activity Recording (11.1.1.13)

- RMA Maintenance (11.7.1.1)
- RMA Shipments (11.7.1.16)
- RTS Shipments (11.7.3.16)
- Work Order Component Issue (16.10)
- Repetitive Labor Transaction (18.14)
- Repetitive Picklist Transfer (18.22.3.6 and 18.3.6)
- Backflush Transaction (18.22.13)
- Receipt Backflush (16.12)
- Rework Transaction (18.22.17)
- Pending Invoice Maintenance (7.13.1)
- Sales Order Shipment (7.9.15)

Receiving transactions

- Receipts - Unplanned (3.9)
- Purchase Order Receipts (5.13.1)
- PO Shipper Receipt (5.5.5.11)
- PO Shipper Receipt (5.13.20)
- Work order Receipt (16.11)
- Work order Backflush (16.12)
- Backflush Transaction (18.22.13)
- Distributed Order Receipt (12.15.20)
- Move Transaction (18.22.19)

During shipper processing in these functions, additional pop-ups for processing legal documents appear when the following conditions are met:

- The current shipment belongs to a shipping group with the appropriate inventory movement details set up:
 - The transaction flow of the inventory movement code is Outbound or Inbound.
 - The document format defined for the shipper is associated with a valid legal document form code.
- A legal document NRM sequence has been defined and assigned to the issuing site with Transaction Flow set to Outbound.

Follow these steps to create and print legal documents:

- 1 When prompted for a legal document sequence ID, accept the default sequence ID or specify another one assigned to the current site, and press Enter to proceed.

Fig. 12.10
Legal Documents NRM Sequence

Legal Document Sequence ID

Sequence ID:

- 2 In the Complementary Data frame, provide additional information as required by the legal document and indicate whether you want to print the legal document immediately.

Fig. 12.11
Legal Documents Complementary Data

Complementary Data

Driver:

License Number:

Print Comments: ☒

Print Legal Document with Shipper: ☒

Number of Copies:

Volume:

Volume UM:

Driver. Optionally enter the driver name of the carrier's vehicle. This field is for reference only and appears on some legal documents.

License Number. Optionally enter the license number of the carrier's vehicle. This field is for reference only and appears on some legal documents.

Print Comments. Specify whether to print shipper comments on the legal document.

Print Legal Document with Shipper. Choose Yes to immediately print the legal document along with the shipper. If you choose No, you can print the legal document later using Legal Document Print (7.10.4).

This value defaults from the Print Legal Document option in Legal Document Control (7.10.24).

Number of Copies. Specify how many copies of legal documents you want to print.

Volume. Enter a code indicating the amount of space the inventory occupies.

Volume UM. Enter a unit of measure in which the net weight is expressed, such as CF, SF, CM. This field is validated against predefined values entered in Generalized Codes Maintenance for field pt_size_um, if any.

- 3 If you chose Yes to immediately print the legal document, specify an output destination. The legal document will be sent to print.

Fig. 12.12
Sample Legal Document

Transfer - Single Item - 8/11/20... X

Remito

Quality Products, Inc.
Manufacturing Division
One World Way
Implementations
United States NJ United States NJ

yes no
ojwtest

Item Description	Quantity	Item Number	Order Number	Lot/Serial Number	Customer
	1.0	ITEM01			

Total Quantity 1.00 Page Number 1
Total Weight 0.00
Total Cost 0.00 Signature
Carrier Name
Vehicle ID

3.4.1 iclotr02.p

Printing Legal Documents

Use Legal Document Print (7.10.4) to print generated legal documents that have not been printed yet or reprint already-printed ones. Use a number of field ranges for selecting legal documents to be considered by the function.

Fig. 12.13
Legal Document Print (7.10.4)

Cancelling Legal Documents

When Legal Document Cancel Time Fence is set to an integer value in Legal Document Control (7.10.24), within this number of days since a legal document was created, it can be cancelled along with its associated shipper during shipper unconfirm.

To cancel a legal document, unconfirm its corresponding shipper in Shipper Unconfirm (7.9.2) and the system will automatically set the legal document status to Cancelled.

Deleting/Archiving Legal Documents

Use Legal Document Delete/Archive to delete legal documents from the system once the online records are no longer needed.

Fig. 12.14
Legal Document Delete/Archive (7.10.23)

The system does not automatically delete historical legal documents at period or year-end. You can delete these records as frequently or infrequently as you prefer. How often you should run this function depends on how long you are legally required to retain historical legal documents and how long you need to keep this information in your database. Most countries require that historical legal documents must be kept at least one year or longer.

You should run this function twice. First, run it with Delete set to No and review the report. Then, run it with Delete set to Yes.

When you set Delete to Yes, records that satisfy the selection criteria are deleted from the database. If you set Archive to Yes, deleted data is copied to an ASCII file that can be reloaded using Archive File Reload. Otherwise, deleted data cannot be recovered.

When Archive is Yes, the system stores selected data in a file named `ldYYMMDD.hst` where `ld` is the record type and `YYMMDD` is the file creation date. If this file does not exist in the system, it is created. If it does exist because you already ran delete/archive the same day, the system adds the additional archived records to the end of the file.

Since the generated file has no internal label or content description, you should keep a record of the file name and contents, in case you need to reload the data. Also, remember that you cannot selectively reload data from archive files. If an archive file contains data for an entire year and you need to access records for one month, you must reload all the data in the file to access the records you need.

Important Date and time in the stored data are formatted based on the country code associated with the user who archived the data. If a user with a different date and time format reloads the data, load errors and corrupted data can occur.

To avoid these problems, use the same settings when archiving and reloading the data. Before loading data, use User Maintenance to temporarily change your country code to match that of the user who archived the data.

You should define menu security for the Legal Document Delete/Archive program.

Country-Specific Legal Documents

Brazil Legal Documents

Brazil Legal Document Life Cycle

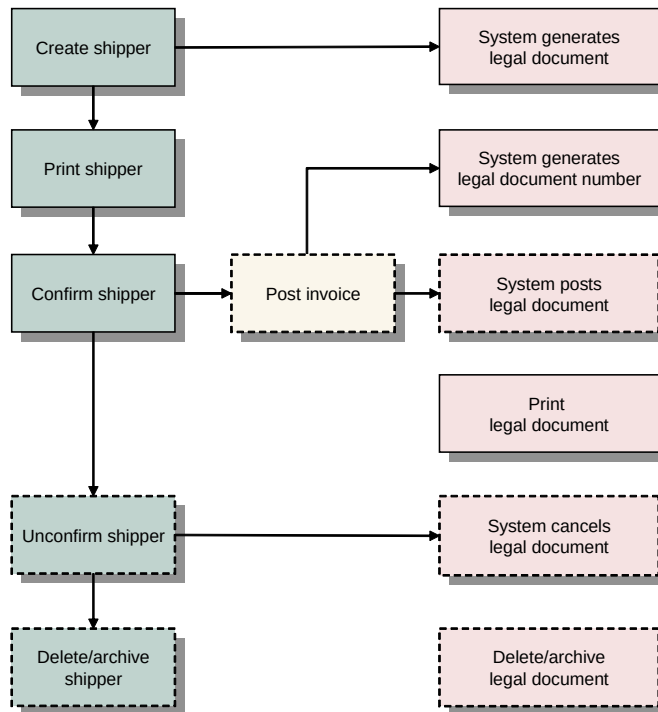
Nota Fiscal is the legal document in Brazil. In sales transactions, it is used in lieu of the invoice. Because of this, the Brazil legal document has special processing requirements when you are dealing with sales:

- The legal document is posted through invoice post.
- You must refrain from consolidating invoices to ensure each shipment is associated with one legal document.

The following diagram illustrates the Brazil legal document life cycle in relation with the shipper and the invoice.

Note There is no invoice processing in non-sales transactions.

Fig. 12.15
Brazil Legal Document Life Cycle



Legal Documents Best Practices for Brazil

Use the following steps to process Brazil legal documents:

- 1 Set Print Legal Document to No in Legal Document Control (7.10.24). This prevents you from printing legal documents immediately after printing shippers by default.
- 2 Set Auto Invoice Post to Yes in Cust Sched/Shipper Acct Control (36.9.7). This sets the default value for both the Auto Invoice Post field in Customer Scheduled Order Maintenance and the Post Invoice field in Pre-Shipper/Shipper Confirm to Yes.
- 3 Create a sales order.
- 4 Create and print the shipper. The system creates a legal document during this process.
- 5 Confirm the shipper and have the system automatically post and print the legal document immediately.

Specifying Item Fiscal Classes

In Item Master Maintenance (1.4.1), enter a mandatory tax code defined by the Brazilian government to help identify materials and determine their corresponding tax rates. Currently, this Brazil-specific field is used as supplementary information of an item for reference only and does not affect tax calculation in GTM.

Fiscal classes are defined in Generalized Codes Maintenance (36.2.13).

Preventing Invoice Consolidation

In Brazil, legal documents are used as invoices and in QAD Enterprise Edition, each legal document must correspond to an invoice. Since legal documents are created separately along with each shipper, invoices must also be kept separate for each shipment.

To prevent consolidation of invoices in Brazil shipping practices, you must set Consolidate Invoices to No in Invoice Post and Print (7.13.4), and set Separate Invoices for Each Shipment to Yes in Container/Shipper Control (7.9.24). Under these settings, when you try to confirm a shipper with a pending invoice, the system displays an error message and prompts you to post the outstanding invoice before you can proceed.

Posting Legal Documents

In Brazil, the Nota Fiscal legal document virtually replaces the invoice as a debt instrument in the shipping process and is used to calculate related taxes. To address this requirement, the system posts Brazil legal documents along with invoices.

Note For this feature to work, the legal document form code must be 51.

Whenever an invoice is posted using the following functions, the system automatically posts its corresponding legal document:

- Pending Invoice Maintenance (7.13.1)
- Invoice Post and Print (7.13.4)
- Pre-Shipper/Shipper Confirm (7.9.5)
- Pre-Shipper/Shipper Auto Confirm (7.9.7)
- Sales Order Shipments (7.9.15)

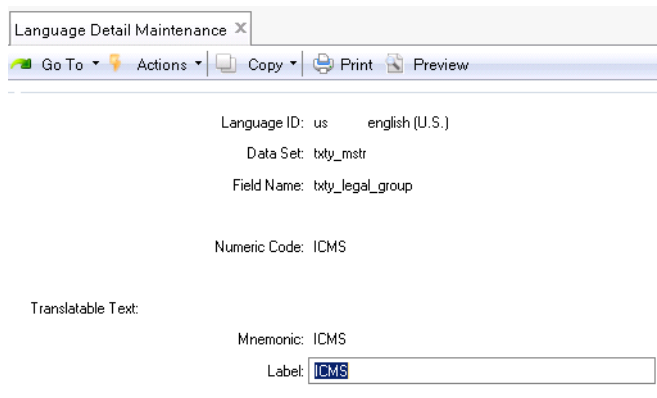
After a legal document is posted, you can see its status is changed to Posted in Legal Document Report (7.10.2).

Printing Two Legal Documents for a Single Shipment

Use Simultaneous Maintenance (7.10.13) to create two legal documents for a single shipment—one sales legal document for invoicing the customer and one shipping legal document for proving the legality and possession of the inventory being shipped. You define different tax usages for determining the tax rate in the two legal documents respectively. Use the following steps to set up the system for this feature:

- 1 Define tax legal groups in Language Detail Maintenance (36.4.25.5). Set Data Set to `txty_mstr` and Field Name to `txty_legal_group`; then specify values in the Numeric Code, Mnemonic, and Label fields.

Fig. 12.16
Language Detail Maintenance (36.4.25.5)



Language Detail Maintenance

Go To Actions Copy Print Preview

Language ID: us english (U.S.)

Data Set: txty_mstr

Field Name: txty_legal_group

Numeric Code: ICMS

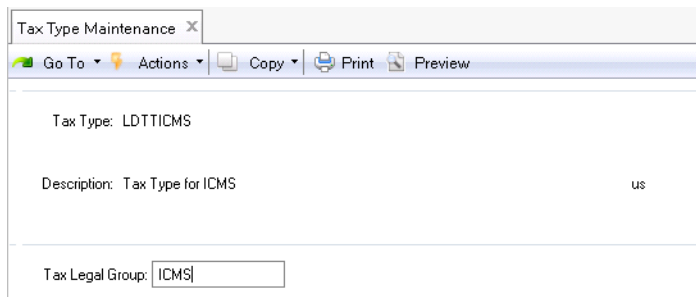
Translatable Text:

Mnemonic: ICMS

Label: ICMS

- 2 In Tax Type Maintenance (29.1.1), link tax types you want to use on legal documents to a tax legal group.

Fig. 12.17
Tax Type Maintenance (7.10.13)



Tax Type Maintenance

Go To Actions Copy Print Preview

Tax Type: LDTTICMS

Description: Tax Type for ICMS us

Tax Legal Group: ICMS

- 3 In Simultaneous Operation Maintenance (7.10.13), define ship-from/ship-to pairs and assign tax legal groups, which link to tax types, to the source/destination combinations.

Fig. 12.18
Simultaneous Operation Maintenance (7.10.13)

Sales Tax Usage. Enter a valid tax usage code to be used for selecting the tax rate in the sales legal document. Generally, this is the same tax usage code specified for the sales order.

When Maintain Operation Type in Tax Usage is Yes in Legal Document Control (7.10.36), the operation type defined for the tax usage must be 11 Sales or 12 Other.

Sales Ship-From. Enter the ship-from site in the sales order.

Sales Ship-To. Enter the address for invoicing the customer. Generally, this is the ship-to address in the sales order rather than the actual ship-to address.

Sales Order. Optionally, enter an existing sales order number.

Shipping Tax Usage. Enter a valid tax usage code. The system does not use this tax usage to select the tax rate, but rather uses it to supply CFOP and other information in the shipping legal document.

When Maintain Operation Type in Tax Usage is Yes in Legal Document Control, the operation type defined for the tax usage must be 11 Sales or 12 Other.

Ship-To. Enter the actual address that the inventory is shipped to. This is an additional address that is not displayed on the sales order.

Retrobilling

Retrobilling in the Brazil environment requires some additional steps to generate legal documents for retrobills.

Usually, pricing is negotiated for specific items when a customer schedule is opened. When price changes occur due to cost fluctuations in your materials or processes, follow these steps to perform retrobilling in the Brazil environment:

- 1 Enter the price changes in Retrobill Maintenance (7.13.13.1) as a new or changed item price.
- 2 When the customer authorizes the price changes, run Retrobill Report (7.13.13.3) to calculate the new debit or credit amount for invoices billed during the retrobill's effective dates.

Fig. 12.19
Retrobill Report (7.13.13.3)

Retrobill Report X

Sold-To: c1	C1
Authorization Number: 02	
Use Default Accounts: Yes	
Retrobill Acct:	
Create Complementary SO: Yes	Tax Usage: LDTU
Create Credit SO: No	Tax Usage:
	Output: SO01

- Choose to create either a complementary SO or a credit SO.
You create a complementary SO when you undercharge a customer and want to create an additional invoice to bill the customer; You create a credit SO when you overcharge a customer such as in the case of sales order returns and want to create a credit note for the customer.
 - When Maintain Operation Type in Tax is Yes in Legal Document Control (7.10.24), you must specify a tax usage with operation type set to 11 Sales or 12 Other.
- 3 Ship the newly created sales order and create a shipper using Sales Order Shipments (7.9.15). The system automatically generates a legal document as well as a pending invoice along with the shipper.
 - 4 Post and print the pending invoice using Invoice Post and Print (7.13.4). The system automatically posts and prints the legal document.

Thailand Legal Documents

Stock card is a legally required form in Thailand used to record all stock transactions (items received or dispensed) and the quantities of items currently in stock and on order.

There are two types of stock cards: stock cards with cost information and those without cost information. Stock cards with cost information are printed and sent to the Revenue Department. Stock cards without cost information are used internally within the organization because cost information is sensitive data and should not be accessible to most people.

Use the following Thailand-specific programs to generate different types of stock cards:

- Stock Card (7.10.11)
- Stock Card by Location (7.10.9)
- Stock Card by Cost (7.10.10)

Fig. 12.20
Stock Card (7.10.11)

The screenshot shows a software window titled "Stock Card" with a standard menu bar (Go To, Actions, Copy, Print, Preview). The form contains several input fields and controls:

- Site:** A text input field with a search icon.
- To:** A text input field with a search icon.
- Product Line:** A text input field.
- To:** A text input field.
- Item Number:** A text input field with a search icon.
- To:** A text input field with a search icon.
- Effective Date:** A date dropdown menu showing "8/1/2009".
- To:** A date dropdown menu showing "8/31/2009".
- Page By Item:** A checkbox.
- Company Address:** A text input field containing "10000000" with a search icon.
- Summary/Detail:** A dropdown menu showing "Detail".
- Output:** A label.
- Batch ID:** A label.

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