MFG/PRO® eB

User Guide
PRO/PLUS

WIP Lot Trace
Self-Billing
Supplier Performance
Global Requisition System (GRS)
Supplier Shipping Schedules
Customer Sequence Schedules



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QAD Inc.
6450 Via Real
Carpinteria, California 93013
Phone (805) 684-6614
Fax (805) 684-1890
http://www.qad.com

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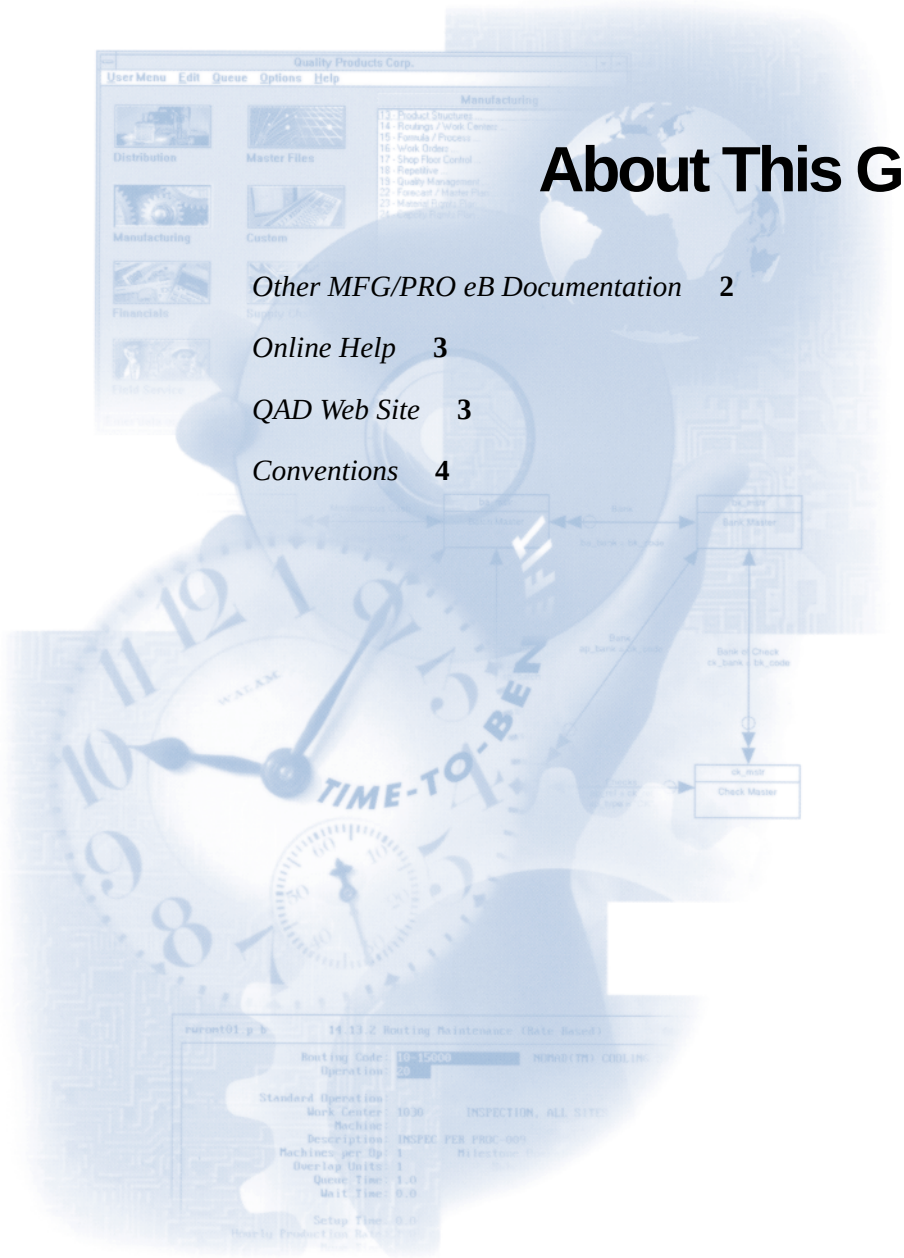
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Conventions **4**

This guide presents the features of the PRO/PLUS package. Use this guide to learn and to begin using the software. The following modules make up the PRO/PLUS package. Each module's user guide begins on the corresponding page.

- "WIP Lot Trace" on page 5
- "Self-Billing" on page 69
- "Supplier Performance" on page 109
- "Global Requisition System (GRS)" on page 153
- "Supplier Shipping Schedules" on page 225
- "Customer Sequence Schedules" on page 265

Other MFG/PRO eB Documentation

- For an overview of new features and software updates, see the *Release Bulletin*.
- For software installation instructions, refer to the appropriate installation guide for your system.
- For instructions on navigating the MFG/PRO eB Windows and character environments, refer to *User Guide Volume 1: Introduction*. Navigation information for the Network User Interface (NetUI) is provided in the *Network User Interface Guide*.
- For information on using MFG/PRO eB, refer to the *User Guides*.
- For information on using features that let MFG/PRO eB work with external applications, see the *External Interface Guides*. For example, these guides describe the Warehousing application program interface (API) and Q/LinQ, the tool set for building and using tools that perform complex data exchange between MFG/PRO eB and external systems.
- For technical details, refer to *File Relationships* and *Database Definitions.*

- To view documents online in PDF format, see the *Documents on CD*. The CD-ROM media includes complete instructions for loading the documents on a Windows network server and making them accessible to client computers.

  Note MFG/PRO eB installation guides are not included on *Documents on CD*. Printed copies are packaged with your software. Electronic copies of the latest versions are available on QAD's Web site.

Online Help

MFG/PRO eB has an extensive online help system. Help is available for most fields found on a screen. Procedure help is available for most programs that update the database. Most inquiries, reports, and browses do not have procedure help.

For information on using the help system in the different MFG/PRO eB environments, refer to *User Guide Volume 1: Introduction* and the *Network User Interface Guide*.

QAD Web Site

QAD's Web site provides a wide variety of information about the company and its products. You can access the Web site at:

http://www.qad.com

For MFG/PRO eB users with a QAD Web account, product documentation is available for viewing or downloading at:

http://support.qad.com/documentation/

To obtain a QAD Web account, go to:

http://support.qad.com/

Most user documentation is available in two formats:

- Portable document format (PDF). PDF files can be downloaded from the QAD Web site to your computer. You can view them with the free Adobe Acrobat Reader. A link for downloading this program is also available on the QAD Web site.

- HTML. You can view user documentation through your Web browser. The documents include search tools for easily locating topics of interest.

Features also include an online solution database to help MFG/PRO eB users answer questions about setting up and using the product. Additionally, the QAD Web site has information about training classes and other services that can help you learn about MFG/PRO eB.

Conventions

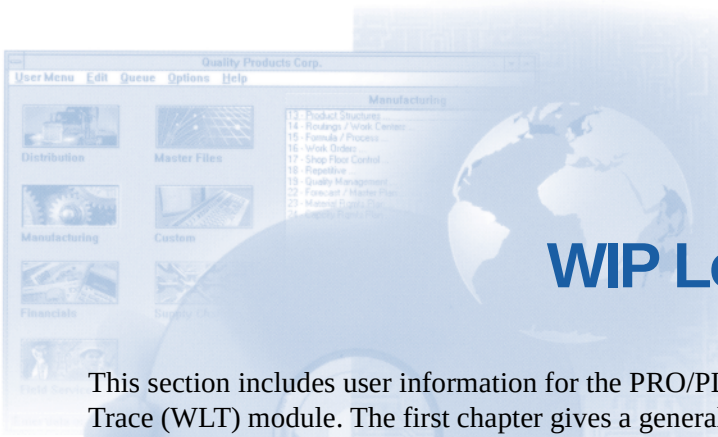
MFG/PRO eB is available in several interfaces: Windows, character, Web browser, and an interface for object-oriented programs. To standardize presentation, the documentation uses the following conventions:

- MFG/PRO eB screen captures show the Windows interface.
- References to keyboard commands are generic. For example, choose Go refers to F2 in the Windows interface and to F1 in the character interface. Throughout MFG/PRO eB, the PROGRESS status line at the bottom of the program window lists the main UI-specific keyboard commands used in that program.

  For complete keyboard command summaries for each MFG/PRO eB interface, refer to the appropriate chapters of *User Guide Volume 1: Introduction* and the *Network User Interface Guide*.

This document uses the text or typographic conventions listed in the following table.

If you see:	It means:
`monospaced text`	A command or file name.
`italicized monospaced text`	Indicates a variable name for a value you enter as part of an operating system command. For example, *`YourCDROMDir`*.
`indented command line`	A long command that you enter as one line, although it appears in the text as two lines.
Note	Alerts the reader to exceptions or special conditions.
Important	Alerts the reader to critical information.
Warning	Used in situations where you can overwrite or corrupt data, unless you follow the instructions.



SECTION 1

WIP Lot Trace

This section includes user information for the PRO/PLUS WIP Lot Trace (WLT) module. The first chapter gives a general overview of this module. The following chapter discusses implementation planning and outlines setup procedures. The next chapter describes in detail the frames used to support WIP lot and serial data entry and recording. It discusses integration and use of WLT in each manufacturing module. The final chapter reviews reports and inquiries that display WLT-related information.

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CHAPTER 1

Introduction to WIP Lot Trace

The PRO/PLUS WIP Lot Trace Module (WLT) allows you to monitor and trace work in process (WIP) inventory at each operation in the manufacturing process easily and accurately. It facilitates tracking of WIP material lot/serials processed by multiple subcontractors and supports serial tracking of WIP material as needed. This module maintains detailed historical records, including which components produced a finished item and which finished items went to a customer.

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Overview

The WIP Lot Trace (WLT) module can be used with manufacturing environments supported by the Repetitive, Advanced Repetitive, or Work Orders modules. It adds WIP lot and serial tracing and reporting functions to MFG/PRO eB. Tracing records are created at the operation level whenever registered resources are consumed or produced.

Data recorded includes the lot numbers, and optionally the serial numbers and references of:

- Component material consumed
- WIP material consumed
- WIP material scrapped
- WIP material produced
- Finished material produced

Cumulative WIP quantity-on-hand (QOH) balances are maintained for all traced lots and serials at each operation queue at the site/work center/machine location where the lot/serial resides.

While you can use this module to trace specific items throughout the manufacturing process, it can be used most efficiently to trace the component and WIP material consumed in the manufacturing of parent items. Use it to trace component, WIP material, and finished goods based on parent items, product structures, and routings.

WIP Lot Trace and Compliance

See *User Guide Volume 6: Master Files.*

The PRO/PLUS WIP Lot Trace module and the MFG/PRO eB Compliance module trace material at different stages in the manufacturing process.

With Compliance lot control, you trace inventory and the consumption of component material lots into finished-material lots. With WLT, you trace consumption of component material lots into WIP material lots, and the consumption of WIP and additional component material lots into finished-material lots.

The two modules can work together or individually. Performance is seamless when using one or both of these related, but different, modules. Each module requires separate setup and operation.

When using automatic lot numbering features of Compliance, the finished item lot/serial number is automatically created when the item is moved into finished item inventory. Automatic lot numbering occurs even if you are using WLT. If you are not using automatic lot numbering, you can assign a new lot/serial number to the finished item or use the WIP lot/serial for the finished item.

Features

Using the WIP Lot Trace module, you can:

- Trace lot and serial numbers of WIP material throughout the manufacturing process, including WIP material processed by multiple subcontractors.
- Create flexible registrations to activate or deactivate WIP lot/serial tracking for all or specific BOMs, routing codes, parent items, component item, routings, and routing operations.
- Maintain complete WIP tracing history.
- Generate reports providing visibility of WIP lot/serial numbers and quantities.
- Optionally generate and assign WIP lot/serial numbers automatically using Number Range Management (NRM) features.
- Control the lot sizes for all traced material.
- Control combining and splitting of lot and component material being traced.
- Control the WIP inventory quantity-on-hand balances for WIP material lot/serials being traced.
- Trace component material lots consumed at any operation in a routing to WIP or finished material lots.
- Trace WIP material lots from operation to operation.
- Renumber lot/serials from one operation to the next, or retain the same numbers throughout all operations.

- Determine the constituent WIP or component material lots of finished or WIP material lots.
- Maintain up-to-date cumulative scrapped, consumed, and produced quantities for traced WIP lot/serials at the operation level.
- Maintain quantity-on-hand balances at the operation level for traced WIP lot/serials.

Subcontract Processing Features

With WIP Lot Trace, you can track all subcontracted WIP material. With the subcontract tracing features, you can:

- Capture WIP lot/serial information and maintain quantity-on-hand balances for WIP material sent to multiple subcontractors.
- Print WIP lot numbers in subcontract shippers.
- Move WIP lots to subcontract operations during shipper confirm.
- Print WIP lot numbers on subcontract POs.
- Backflush subcontracted WIP lots as part of the PO receipts process.

Changes to MFG/PRO eB

When activated, the WLT module adds a number of similar data collection frames and fields to the programs in the modules listed below. WLT also modifies some reports and inquiries to include WLT information. These frames, their use, and their locations are discussed in Chapter 3. Most frames function identically whenever they are used.

- Repetitive
- Advanced Repetitive
- Work Orders
- Shop Floor Control
- Inventory Control
- Purchasing

Advanced Repetitive

Table 1.1 shows the Advanced Repetitive programs modified by the WIP Lot Trace module.

Table 1.1 Advanced Repetitive Programs Modified by WLT

Menu	Description	Program
18.22.4.2	Operation Transaction Detail Inquiry	reopiq02.p
18.22.4.11	WIP Status Report	reworp05.p
18.22.5.4	Sub Container Maintenance	rectmt.p
18.22.5.5	Sub Shipper Maintenance	reshmt.p
18.22.5.9	Sub Shipper Print	rerp11.p
18.22.5.11	Sub Shipper Issue	resubis.p
18.22.10	Cumulative Order Close	reclose.p
18.22.12	WIP Status Inquiry	rewoiq05.p
18.22.13	Backflush Transaction	rebkfl.p
18.22.14	Run Labor Transaction	relbr.p
18.22.15	Setup Labor Transaction	reset.p
18.22.16	Reject Transaction	reject.p
18.22.17	Rework Transaction	rework.p
18.22.18	Scrap Transaction	rescrap.p
18.22.19	Move Transaction	remove.p
18.22.21	WIP Adjust Transaction	rewadj.p

Standard Repetitive

Table 1.2 shows the standard Repetitive programs modified by the WIP Lot Trace module.

Table 1.2 Repetitive Programs Modified by WLT

Menu	Description	Program
18.4.2	Repetitive Transaction Detail Inquiry	reopiq12.p
18.13	Repetitive Setup Transaction	reoptr07.p
18.14	Repetitive Labor Transaction	reoptr10.p
18.16	Repetitive Rework Transaction	reoptr13.p
18.17	Repetitive Reject Transaction	reoptr11.p
18.18	Repetitive Scrap Transaction	reoptr14.p

Work Orders

Table 1.3 shows the Work Orders programs modified by the WIP Lot Trace module.

Table 1.3
Work Orders Programs Modified by WLT

Menu	Description	Program
16.9	Work Order Split	wowosp.p
16.10	Work Order Component Issue	wowois.p
16.11	Work Order Receipt	woworc.p
16.12	Work Order Receipt Backflush	wowoisrc.p
16.19	Work Order Operation Backflush	wobkfl.p

Shop Floor Control

Table 1.4 shows the Shop Floor Control programs modified by the WIP Lot Trace module.

Table 1.4
Shop Floor Programs Modified by WLT

Menu	Description	Program
17.1	Labor Feedback By Work Order	sfoptr01.p
17.2	Labor Feedback By Employee	sfoptr02.p
17.3	Labor Feedback By Work Center	sfoptr03.p
17.6	Operation Move Transaction	sfoptr06.p
17.7	Operation Scrap Transaction	sfscrap.p
17.8	Operation Transaction Browse	sfbr001.p
17.9	Operation Transaction Detail Inquiry	sfopiq12.p
17.13	Operation by Work Center Report	sfoprp11.p
17.14	Operation by Work Order Report	sfoprp12.p
17.15	Operation by Employee Report	sfoprp13.p

Inventory Control

Table 1.5 shows the Inventory Control programs modified by the WIP Lot Trace module.

Table 1.5 Inventory Control Programs Modified by WLT

Menu	Description	Program
3.4.3	Transfer With Lot/Serial Change	iclotr03.p
3.4.4	Batchload Transfer With Lot/Serial Change	iclotr04.p
3.21.1	Transaction Detail Inquiry	ictriq.p

Purchasing

Table 1.6 shows the Purchasing programs modified by the WIP Lot Trace module.

Table 1.6 Purchasing Programs Modified by WLT

Menu	Description	Program
5.7	Purchase Order Maintenance	popomt.p
5.10	Purchase Order Print	poporp03.p
5.13.1	Purchase Order Receipts	poporc.p
5.13.7	Purchase Order Returns	porvis.p
5.13.13	PO Container Maintenance	rsctmt.p
5.13.14	PO Shipper Maintenance	rsshmt.p
5.13.20	PO Shipper Receipt	rsporc.p

QOH and Cumulative WIP Balances

When the WIP Lot Trace module is active, some Repetitive, Advanced Repetitive, and Work Orders programs maintain WIP inventory and QOH balances by lot. QOH and WIP cumulative balance records are maintained for quantities scrapped, consumed, and produced for each lot processed at every traced operation.

Table 1.7 Programs That Maintain WIP QOH Inventory Balances by Lot/Serial

Menu	Description	Program
5.13.1	Purchase Order Receipts	poporc.p
5.13.7	Purchase Order Returns	porvis.p
16.10	Work Order Component Issue	wowois.p

Menu	Description	Program
16.11	Work Order Receipt	woworc.p
16.19	Work Order Operation Backflush	wobkfl.p
17.1	Labor Feedback By Work Order	sfoptr01.p
17.2	Labor Feedback By Employee	sfoptr02.p
17.3	Labor Feedback By Work Center	sfoptr03.p
17.6	Operation Move Transaction	sfoptr06.p
17.7	Operation Scrap Transaction	sfscrap.p
18.14	Repetitive Labor Transaction	reoptr10.p
18.16	Repetitive Rework Transaction	reoptr13.p
18.17	Repetitive Reject Transaction	reoptr11.p
18.18	Repetitive Scrap Transaction	reoptr4.p
18.22.13	Backflush Transaction	rebkflmt.p
18.22.14	Run Labor Transaction	relbr.p
18.22.15	Setup Labor Transaction	reset.p
18.22.16	Reject Transaction	reject.p
18.22.17	Rework Transaction	rework.p
18.22.18	Scrap Transaction	rescrap.p
18.22.19	Move Transaction	remove.p
18.22.21	WIP Adjust Transaction	rewadj.p

WIP Lot Trace in MFG/PRO eB

WIP Lot Trace programs are located on the 3.22.13 menu. This module adds the following menu-level programs.

Table 1.8
WIP Lot Trace Programs

Menu	Description	Program
3.22.13.1	Routing Registration Maintenance	wlrmmt.p
3.22.13.2	Routing Registration Inquiry	wlrmiq.p
3.22.13.4	BOM Registration Maintenance	wlbmmt.p
3.22.13.5	BOM Registration Inquiry	wlbmiq.p
3.22.13.13	WIP Lot Inventory Status Report	wlrp01.p
3.22.13.14	Item Lot Ship Transaction Report	wlrp04.p
3.22.13.15	WIP Lot Convert Transaction Report	wlrp06.p

Menu	Description	Program
3.22.13.16	WIP Lot Non-Convert Transaction Report	wlrp07.p
3.22.13.17	WIP Lot Inquiry	wliq01.p
3.22.13.18	Supplier Lot Transaction Report	wlrp08.p
3.22.13.19	WIP Lot Where-Used Report	wlrp02.p
3.22.13.20	WIP Lot Actual Bill Report	wlrp03.p
3.22.13.23	WIP Lot Delete/Archive	wldel.p
3.22.13.24	WIP Lot Trace Control File	wlpm.p

CHAPTER 2

Setting Up WIP Lot Trace

This chapter details how to set up the WIP Lot Trace Control File and registration programs.

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Defining Control File Settings **23**

Registering Routing Exceptions **27**

Registering BOM Exceptions **30**

Planning for Setup

Setup of the WIP Lot Trace (WLT) module depends greatly on how much tracing your manufacturing environment requires. Having clearly defined tracing requirements simplifies the setup process.

This section discusses the issues you should resolve and the types of information that you should collect before you set up WLT. This information about your manufacturing environment will facilitate the setup and use of this module.

Deciding Which Material to Trace

This module traces material based on parent item routing. Routings define where component items to be traced are consumed and where the WIP material to trace is produced. WLT also traces material based on parent item BOM codes when the component item is part of the BOM. Tracing does not occur on an item-per-item basis.

You should begin setup by first considering and listing which parent items need to have component and WIP material traced. From this list, derive the routings and BOMs used to manufacture the parent items. You need these routing and BOM codes to set up this module.

You should also note whether any special tracing requirements exist, such as operations in a routing where tracing should begin, or specific BOMs for which component items should not be traced. You should have this information prepared before you begin to set up WLT.

Knowing exactly which routings and BOMs consume components and create the WIP material you need to trace lets you configure the WIP Lot Trace module effectively. This is because you can configure the module to trace components and WIP for all routings and BOMs, with the exception of only a few, or you can configure it to trace components and WIP for only a few routings and BOMs.

Milestone and Non-Milestone Operations

WLT cannot be used to track WIP material at non-milestone operations. WIP lot/serials are produced only by milestone operations. Additionally, WIP quantity-on-hand (QOH) balances cannot reside in the input queue

of the first milestone operation of any routing. This is true even if the first milestone operation is not the first operation in the routing.

To track WIP material, including the component material consumed and parent items produced, routing operations that consume and produce that material must be milestone operations. Use Routing Maintenance (14.13.1) to update routings for use with WLT.

Before Tracing Subcontracted WIP Material

If you plan to trace WIP material at multiple subcontractor locations, you should follow these steps before beginning to set up WLT:

- Create and plan to maintain detailed records of subcontractors qualified to perform each operation. You should note whether they maintain the WIP lot/serial numbers you assign or if they assign new ones for the material they process for you. For example, you send WIP lot AA to one of your subcontractors and the subcontractor later sends you the processed material with a new lot number.
- List all your subcontractors. Use Work Center Maintenance (14.5) to create a work center for each subcontractor.
- Use Routing Maintenance (14.13.1) to create or modify existing routing codes that have subcontracted operations. These routings should reference an appropriate subcontractor work center.

Lot Sizing Restrictions

With WIP Lot Trace, you can restrict the size of lots processed by a routing or routing operation. Lot-size restrictions are useful when work centers can process only certain quantities of material, or when specific operations require certain lot sizes. For example, if machine capacity allows you to produce only 50 items at operation 30, then the maximum lot size would be 50.

If any lot-sizing restrictions apply in your manufacturing environment, you should list these restrictions, organized by routing, operation, and work center. It is very important to note any lot-size restrictions that differ at operations within the same routing.

The lot-size information you collect facilitates configuring the WIP Lot Trace module. You use it to create records in Routing Registration

Maintenance (3.22.13.2) that limit the size of lots processed by a routing or routing operation.

Inventory Lot Quantity Issuing Restrictions

Tip
WIP inventory is the amount of WIP material that resides at an operation.

Some manufacturing environments allow WIP inventory quantities to be driven negative by overissuing of material; others do not. If these types of restrictions apply in your manufacturing environment, sort them by routing. Then sort any restrictions within each routing by operation.

Example You have WIP lot 5A with 50 items at operation 30 of routing 101. At operation 40, you issue WIP lot 5A with 100 items. This issue would result in an overissue of 50 items, giving you a negative WIP QOH of 50 items at operation 30. You note that for routing 101, overissuing of WIP is allowed.

Use the information you collect regarding issuing restrictions to create records in Routing Registration Maintenance (3.22.13.1) that prevent or allow WIP lot overissuing based on the routing or routing operation.

Inventory References

In addition to tracing component and WIP lot/serials, use this module to trace component lot inventory references.

Example Lot 3A of steel wire comes in three spools. Each spool is separately identified in inventory using the Reference field as Sp1, Sp2 and Sp3. When consuming steel wire in manufacturing, enter the spool number in the Reference field during backflush. The inventory references are recorded in tracing history records. WLT reports that display references show the spool reference consumed into each finished item.

If inventory reference tracing is required in your manufacturing environment, you should first set up naming and usage standards for references. References are not validated within the system, but a clearly defined system facilitates data entry and reporting during and after manufacturing processes.

Note You must trace component material in order to trace references.

Lot Splitting and Combining

WIP Lot Trace manages lot splitting and combining.

- Lot splitting occurs when processing a single material lot at an operation results in two or more output lots.
- Lot combining occurs when two or more input lots are combined at an operation, resulting in one output lot.

If lot splitting or combining is an issue in your environment, clearly define your requirements. Consider whether you have a single requirement—you can or cannot split or combine lots, or multiple requirements—you can split or combine some lots, but not others. List these requirements by routing code and note any requirements that differ within each routing by operation.

Example Routing 101 has five operations. Operation 30 can only process lots of 50 items. The lots produced by operation 20 consist of 100 items. This requires that lots of 100 be split into two new lots of 50 items each. All operations after operation 30 continue to process 50-item lots. You note in routing 101 that lot splitting is allowed for operation 30.

Allowing lots to be combined should be carefully considered. As lots are combined through the manufacturing process, quality control risks become greater and more expensive. For example, if you combine lots at an early operation and later determine that the material from one of those lots is defective, you may need to rework or scrap all WIP material and finished material that was manufactured with the defective material. The more lot combining that occurs, the more material is affected in this manner.

When you complete your analysis, use this information to create records in Routing Registration Maintenance (3.22.13.1) and BOM Registration Maintenance (3.22.13.4). The system uses these records to allow or restrict splitting and combining of WIP and component material lots.

Custom Lot/Serial Number Formats

If you have specific lot/serial number format requirements, create Number Range Management (NRM) sequence IDs using Number Range Maintenance (36.2.21.1). You can use one NRM sequence ID to generate

See *User Guide Volume 9: Manager Functions.*

all lot/serial numbers for WIP Lot Trace. Optionally, you can designate specific NRM IDs for individual routing codes.

Note WLT requires that NRM-generated numbers be no longer that 18 characters. Generated lot/serial numbers are not checked against existing manually entered or NRM-generated lot/serial numbers.

Maintaining Accurate System Configuration Information

In environments where strict tracing records are kept, such as manufacturing of pharmaceuticals, you should maintain detailed and dated records of control file settings, routing registration records, and BOM registration records. These records are important for product recall and for quality assurance.

You should also set up procedures like the following to help you record and regulate any changes to these WLT control settings.

- Consider restricting WLT control programs with password validation.
- Maintain an external system where you can record any control changes. This might be a simple spreadsheet, or an automated data-mining utility that records any control changes automatically.
- Avoid making manual changes to routing or BOM registrations. Instead, you should use the registration start and end dates to manage changes.

Example When lot/serial number formats change, create a WLT routing registration with the new NRM ID. Set the effective date for the new registration to a date immediately following the effective end date of the registration being changed. When a change needs to be expedited, change the effective end date of the registration being changed to correspond with the new registration's start effective date.

In addition to control records, you should also create, maintain, and adhere to a delete/archive schedule for all WLT historical information. Set up procedures that let you maintain correct and accurate historical tracing records that have been deleted from your system and archived elsewhere. Consider setting up procedures that let you easily locate and extract tracing records from archived tracing records.

Setting Up WIP Lot Trace

Setting up WLT involves the same process whether you are using the Repetitive, Advanced Repetitive, or Work Orders module.

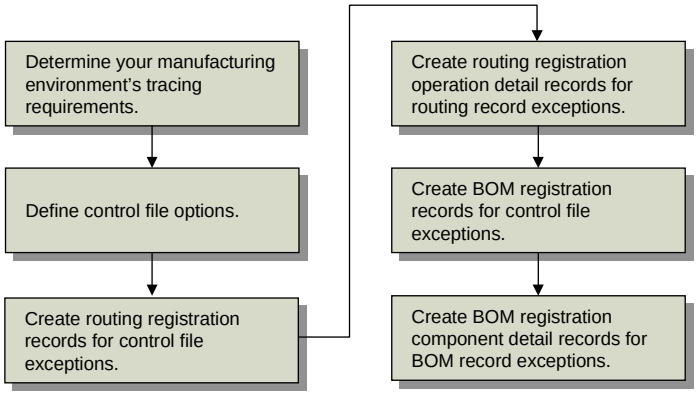


Fig. 2.1
WIP Lot Trace Setup Work Flow

Defining Control File Settings

To begin setting up WIP Lot Trace, activate it by setting Enable WIP Lot Trace to Yes in the WIP Lot Trace Control File (3.22.13.24).

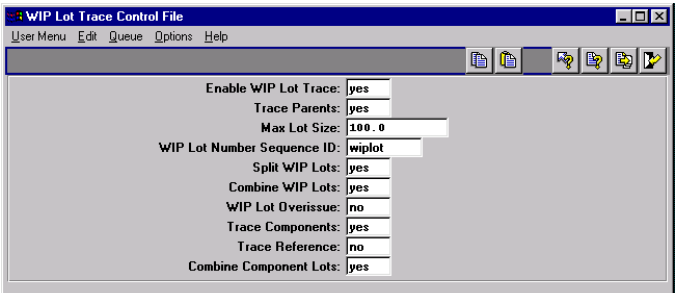


Fig. 2.2
WIP Lot Trace Control File (3.22.13.24)

Control file settings apply to all routings and BOMs used throughout your manufacturing environment. Specify the most common BOM and routing settings in the control file. These values depend greatly on the information you collected when planning how you will use WLT.

See page 27 and page 30.

You can create exception records to override these settings for specific routings and BOMs. For example, in an environment where most parent items are traced, the Trace Parents value is set to Yes. To disable tracing

for specific parent items that do not need it, use Routing Registration Maintenance to create a record for each of those parent items. Set the Trace Parents value to No for those records.

Use the following field descriptions and any data you collected as discussed in the planning section to guide you through the control file setup.

Enable WIP Lot Trace. Enter Yes to activate the WIP Lot Trace module.

See page 10.

When WIP Lot Trace is active, new fields and frames display in programs such as Backflush Transaction, Reject Transaction, and Rework Transaction.

Trace Parents. Enter Yes to trace all parent items; otherwise, enter No.

You cannot trace components or references unless Trace Parents is Yes in the control file or for the routing.

This value applies to all routings. Change it for specific routings in Routing Registration Maintenance.

This value defaults to Trace Parents in Routing Registration Maintenance.

Max Lot Size. Enter the maximum size for WIP lots produced at any operation. A warning message displays when the cumulative WIP lot size exceeds this quantity.

Enter 0 (zero) to indicate that lot size is not restricted and to prevent warning messages from displaying.

This value applies to all routings. Change it for specific routings in Routing Registration Maintenance.

This value defaults to Max Lot Size in Routing Registration Maintenance.

WIP Lot Number Sequence ID. Enter an optional sequence ID defined with Number Range Maintenance (36.2.21.1). The system uses this sequence to generate output WIP lot/serial numbers automatically.

NRM-generated WIP lot/serial numbers cannot exceed 18 characters.

The NRM sequence ID you specify here applies to all routings. Change the NRM sequence ID for specific routings in Routing Registration Maintenance.

This value defaults to WIP Lot Number Sequence ID in Routing Registration Maintenance.

If an NRM sequence is not specified, you must manually enter output WIP lot/serial numbers. However, when an NRM sequence ID is specified in the WIP Lot Trace Control File or in the routing registration record, you can leave the fields blank. The system automatically generates a lot/serial number based on this sequence ID.

Split WIP Lots. Enter Yes if an input WIP lot can be divided into multiple output WIP lots.

Example One WIP lot of blank bolt studs goes into a threading machine. The lot being consumed should not be split into separate output WIP lots, such as one lot of metric-thread bolts and one lot of standard-thread bolts. To prevent lot splitting, enter No.

This value applies to all routings. Change it for specific routings in Routing Registration Maintenance.

This value defaults to Split WIP Lots in Routing Registration Maintenance.

Combine WIP Lots. Enter Yes if multiple input WIP lots can be combined into a single output WIP lot.

Example At operation 20, input WIP lot L1 is consumed into output WIP lot M1 using the backflush transaction. On the next backflush, you try to consume input WIP lot L2 into output WIP lot M1. If Combine WIP Lots is No, the second backflush transaction cannot proceed.

This value applies to all routings. Change it for specific routings in Routing Registration Maintenance.

This value defaults to Combine WIP Lots in Routing Registration Maintenance.

WIP Lot Overissue. Enter Yes if a quantity can be issued for a WIP lot even when that issue results in a negative WIP lot quantity on hand (QOH).

Example With a WIP lot/serial QOH of 5, the system lets you issue a quantity of 7 when WIP Lot Overissue is Yes. A warning tells you that this issue will result in a negative QOH balance of –2. If WIP Lot Overissue is No, the system displays an error message. This situation can occur when a later operation is reported before an earlier one.

This value applies to all routings. Change it for specific routings in Routing Registration Maintenance.

This value defaults to WIP Lot Overissue in Routing Registration Maintenance.

Trace Components. Enter Yes to trace component lots consumed in manufacturing operations; otherwise, enter No.

To trace component lot/serials, you must also trace their corresponding parent items.

This value applies to all BOM codes. Change it for specific BOM codes in BOM Registration Maintenance.

This value defaults to Trace Components in BOM Registration Maintenance.

Trace Reference. Enter Yes to trace references assigned to traced component-item inventory.

To trace inventory references, you must also trace their corresponding component and parent items.

Example Lot 3A of steel wire comes in three spools. Each spool is separately identified in inventory using the Reference field as Sp1, Sp2, and Sp3. When steel wire is consumed, you must enter the spool number in the Reference field during backflush. If Trace Reference is Yes, the spool numbers are recorded in tracing history and display in the Lot Where Used and Lot Actual Bill reports. They also appear in transaction detail reports and inquiries.

This value applies to all BOM codes. Change it for specific BOM codes in BOM Registration Maintenance.

This value defaults to Trace Reference in BOM Registration Maintenance.

Combine Component Lots. Enter Yes if multiple lots of the same component or raw material can be consumed into a single WIP lot/serial.

Example Combine Component Lots is No for steel. Two lots of steel, lot A and lot B, are in the storeroom. Lot A is processed at the first operation, becomes WIP lot W1, and is backflushed accordingly. If you try to backflush steel lot B into WIP lot W1, the system displays an error. Only one lot of steel can be consumed into WIP lot W1.

This value applies to all BOM codes. Change it for specific BOM codes in BOM Registration Maintenance.

This value defaults to Combine Component Lots in BOM Registration Maintenance.

Registering Routing Exceptions

Use Routing Registration Maintenance (3.22.13.1) to define exceptions to the control file settings by creating new settings for parent item routings and routing operations that must have different values than those defined in the control file.

Example In the WIP Lot Trace Control File you indicate that the maximum WIP lot size is 150 because, in general, lot sizes must stay below this quantity in your manufacturing operations. However, for routing 007, you do not want the WIP lot size to exceed 50. Use Routing Registration Maintenance to specify this maximum lot size for routing 007.

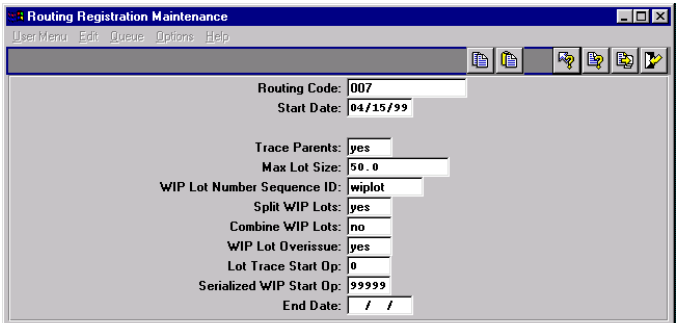


Fig. 2.3 Routing Registration Maintenance (3.22.13.1)

Some field values default from the control file. Additional fields are described below. Use these descriptions and any data you collected as

discussed in the planning section to register control file exception records for specific routings and routing operations.

Routing Code. Enter the routing code for which you are creating a routing registration record.

Start Date. Enter the date when this routing registration record is effective. When a start date is not specified, this registration record becomes effective immediately.

When multiple registration records have overlapping effective dates, the registration with the start date closest to the transaction effective date is used.

Lot Trace Start Op. Enter the operation where WIP lot tracing should begin for the specified routing code. The default is 0 (zero). Leave this value to begin WIP lot tracing at the first operation in this routing.

Any component material consumed at operations prior to the operation specified here is not traced. The system does not prompt for input WIP lots at this operation. It prompts for input and output WIP lots at the operations that follow.

Serialized WIP Start Op. Enter the operation at which serial tracing should begin. WIP serial tracing cannot begin before WIP lot tracing begins. It must begin on or after the operation specified in Lot Trace Start Op.

Leave the default value of 99999 to indicate that serial tracing should not occur.

For WIP lots to be serial traced, transaction quantities can only be –1, 0, or 1, and WIP lot quantity-on-hand (QOH) balances must be 0 or 1.

Example For a manufacturer of a pharmaceutical, serial tracing begins at the bottling operation, but WIP lot tracing begins at the first operation where lot-controlled ingredients are consumed. For a manufacturer of specialized components for medical equipment, serial tracing begins at the first operation that consumes a serial-controlled component.

End Date. Enter the last date that this routing registration record is effective. Leave blank to indicate that this registration should be effective indefinitely.

Once routing defaults are set, you can further define whether to allow lot splitting, combining, and overissuing per operation in the defined routing. This is done in the second frame of this program.

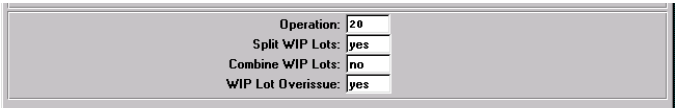


Fig. 2.4 Routing Registration Operation Frame

Operation. Enter the operation for which you are creating a routing operation registration record.

Split WIP Lots. Enter Yes if WIP lots produced by this operation can be divided into multiple lots by the next operation.

This value only affects WIP material produced by this operation.

Example Because Split WIP Lots is No for operation 30, WIP lots produced by operation 30 cannot be split at operation 40. One WIP lot of blank bolt studs produced by operation 30 goes into a threading machine at operation 40. The lot to be consumed at operation 40 cannot be split into separate WIP lots, such as one WIP lot of metric-thread bolts and one WIP lot of standard-thread bolts. To allow lot splitting, set this field to Yes.

This value defaults from the first frame.

Combine WIP Lots. Enter Yes if multiple input WIP lots for this operation can be combined into a single WIP output lot before being processed by the next operation.

This value only affects WIP material produced by this operation.

Example Because Combine WIP Lots is No for operation 30, WIP lots produced by operation 30 cannot be combined at operation 40. Two WIP lots of blank bolt studs produced by operation 30 go into a threading machine at operation 40. The lots to be consumed at operation 40 cannot be combined into a single WIP lot. To allow lot combining, set this field to Yes.

This value defaults from the first frame.

WIP Lot Overissue. Enter Yes if a quantity can be issued for a WIP lot even when that issue results in a negative WIP lot quantity on hand (QOH) at this operation. This value defaults from the first frame.

This value only affects WIP material produced by this operation.

This value affects the output queue of this operation and the input queue of the following operation. When the output queue of the current operation is driven negative by a backflush at the following operation, the system must also allow for the input queue of the following operation to be driven negative.

Example A routing has 10 operations. In this manufacturing environment, the output of operation 5 must be allowed to have negative WIP lot balances. A backflush at the next operation consumes from its input queue as well as from current operation's output queue. For this reason, the input queue of the following operation must also be allowed to have negative WIP balances.

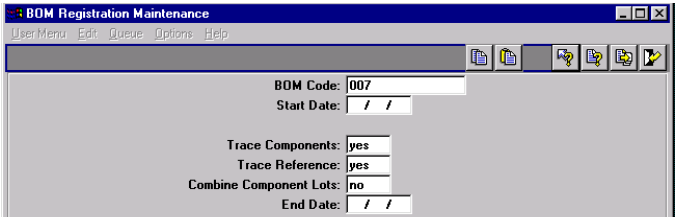
To do this, set WIP Lot Overissue to No in the first frame, indicating that for this routing registration record, WIP lot balances cannot be negative. In the second frame, specify Operation 5 and set WIP Lot Overissue to Yes. The value you set for operation 5 overrides the general routing value set in the first frame.

Registering BOM Exceptions

BOM Registration Maintenance (3.22.13.14) is similar to Routing Registration Maintenance. Use this program to create exceptions to the control file settings by creating new settings for BOMs.

Example In the WIP Lot Trace Control File you indicate No in Trace Reference because you typically do not trace inventory references in your manufacturing operations. However, for BOM code 007 you need to trace references. Use BOM Registration Maintenance to indicate that references need to be traced for BOM 007.

Fig. 2.5
BOM Registration Maintenance (3.22.13.4)



Some field values default from the control file. Additional fields are described below. Use the following field descriptions and any data you collected as discussed in the planning section to register control file exception records for specific BOMs or BOM components.

BOM Code. Enter a BOM code for which you are creating a registration record.

Start Date. Enter the date when this BOM registration record is effective. When a start date is not specified, this registration is effective immediately. When multiple registration records have overlapping effective dates, the registration with the most recent start date is used.

End Date. Enter the last date that this BOM registration record is effective. Leave blank to indicate that this registration should not end.

Optionally, use the second frame to further define whether to trace components or references and whether to allow combining of component lots for specific component items in the BOM.

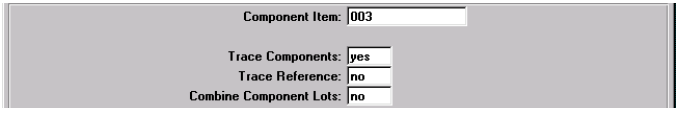


Fig. 2.6
BOM Registration Component Item Detail Frame

Component Item. Enter the component for which you are creating a detail BOM-registration record.

In the first frame of this program, you set up control fields that apply to all components of the specified BOM. In this frame, you can override these settings for specific components.

Trace Components. Enter Yes to trace lots of this component consumed in manufacturing operations; otherwise, enter No. To trace component items, you must also trace their corresponding parent items.

When Trace Components is Yes in the WIP Lot Trace Control File but this field is No, tracing does not occur when this component is consumed under this BOM code.

This value defaults from the first frame of this program. Changes you make here override the value set in the first frame for this component item in this BOM code only.

Trace Reference. Enter Yes to trace references assigned to lots of this component item.

To trace references, you must also trace corresponding component and parent items.

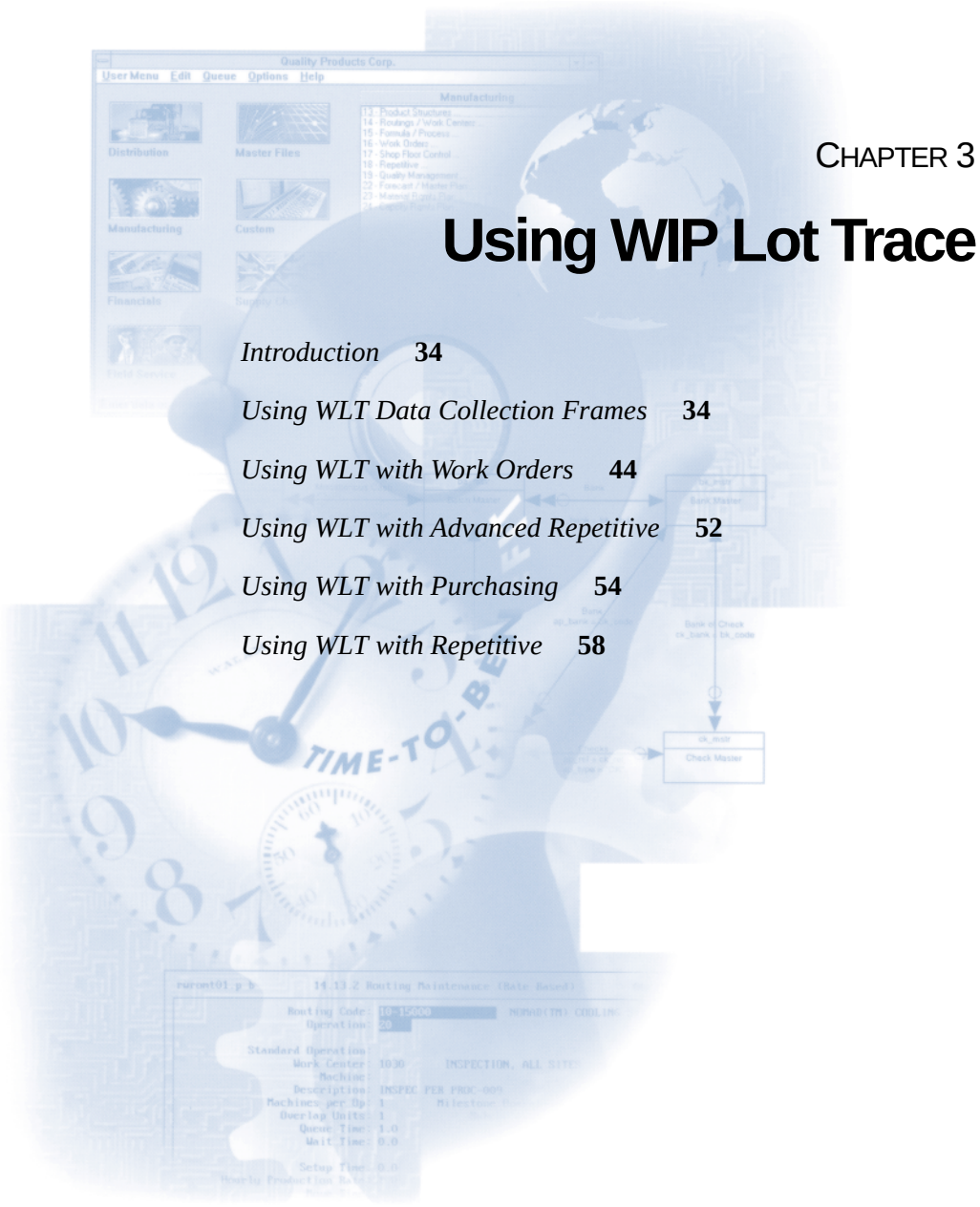
Example Lot 3A of steel wire comes in three spools. Each spool is separately identified in inventory using the Reference field as Sp1, Sp2, and Sp3. When steel wire is consumed, you must enter the spool number in the Reference field during backflush. If Trace Reference is Yes, the spool numbers are recorded in tracing history and display in the Lot Where Used and Lot Actual Bill reports. They also display in transaction detail reports and inquiries.

This value defaults from the first frame of this program. Changes you make here override the value set in the first frame for this component item in this BOM code only.

Combine Component Lots. Enter Yes if multiple lots of this component can be consumed into a single WIP lot/serial.

Combine Component Lots is No for steel. Two lots of steel, lot A and lot B, are in the storeroom. Lot A is processed at the first operation, becoming WIP lot W1, and is backflushed accordingly. If you try to backflush steel lot B into WIP lot W1, the system displays an error. Only one lot of steel can be consumed into WIP lot W1.

This value defaults from the first frame of this program. Changes you make here override the value set in the first frame for this component item in this BOM code only.



CHAPTER 3

Using WIP Lot Trace

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Introduction

Before you begin using WLT, you should note that some order processing procedures are slightly modified to support WLT data entry. Additionally note that:

- WIP material cannot be traced at non-milestone operations.
- WIP lot/serial balances can reside only at milestone operations.
- Some normally editable fields are not editable. Instead, WLT frames are used to record that information.
- WIP quantity-on-hand (QOH) balances cannot reside in the input queue of the first milestone operation, even if the first milestone operation is not the first operation.
- Any information entered in WLT frames is used to update QOH balances and WLT tracing history records.
- Before processing any WLT-modified transactions, the system checks for associated WLT routing or BOM registrations that include lot splitting, combining, and size restrictions. If none are found, the system then looks for related restrictions in the WIP Lot Trace Control File.

Using WLT Data Collection Frames

Depending on your particular tracing needs and system configuration, various Repetitive, Advanced Repetitive, Work Orders, Shop Floor Control, and Purchasing programs use WIP Lot Trace frames to collect, record, and update tracing records. The following sections discuss when these frames are activated and how they are used within each program.

Routing and routing operations become WLT controlled when:

- Trace Parents is Yes in the WIP Lot Trace Control File (3.22.13.24) and a routing registration does not exist for the routing being used. All operations for that routing become WLT controlled.
- A WLT routing registration is active for the routing. WLT control begins at the start operation specified in the registration record.

A component item becomes WLT controlled when it is consumed at a WLT-controlled operation and either of the following is true:

- Trace Components is Yes in the WIP Lot Trace Control File, or
- Trace Components is Yes in WLT BOM registrations for any BOMs that use the component.

Destination Work Center and Machine

The Destination Work Center and Machine frame appears in Repetitive, Advanced Repetitive, and Work Orders programs. Use it to specify where to move the WIP material produced at the current operation. The information entered in this frame is used to update QOH balances for the affected queues.

Example In your Advanced Repetitive environment you have three machines in a work center that do the same job for operation 30. To trace WIP material processed by a machine, backflush the WIP material at operation 20 and use this frame to specify the machine where that WIP material will be processed during operation 30.

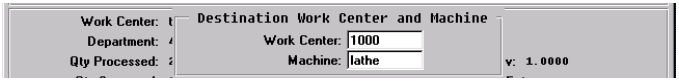


Fig. 3.1 Destination Work Center and Machine Frame

When using Reject Transaction (18.22.16), this frame appears only when the reject-from queue is WLT controlled. When using Rework Transaction (18.17), this frame appears only when the rework-from queue is WLT controlled. For all other programs, this frame appears when:

- The current operation output queue is WLT controlled.
- The current operation is not the last operation.
- Move To Next Op is Yes.

Table 3.1 lists the material transfer programs that use this WLT frame.

Table 3.1 Programs Displaying Destination Work Center and Machine Frame

Menu	Program
16.19	Work Order Operation Backflush
17.1	Labor Feedback by Work Order
18.14	Repetitive Labor Transaction

Menu	Program
18.16	Repetitive Rework Transaction
18.22.13	Backflush Transaction
18.22.16	Reject Transaction
18.22.17	Rework Transaction
18.22.19	Move Transaction

WIP Lot Input Queue Issue Data

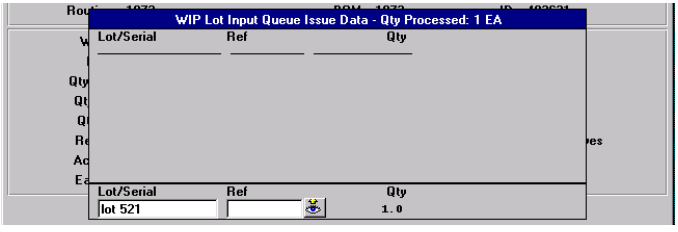
Use the WIP Lot Input Queue Issue Data frame to register lot/serials of the WIP material being consumed at the current operation. This frame appears when the previous operation's output queue and the current operation's input queue are WLT controlled. Table 3.2 lists the programs where this frame appears.

Table 3.2 Programs Displaying WIP Lot Input Queue Issue Data Frame

Menu	Program
5.13.1	Purchase Order Receipts
16.10	Work Order Component Issue
16.19	Work Order Operation Backflush
18.14	Repetitive Labor Transaction
18.17	Repetitive Reject Transaction
18.22.13	Backflush Transaction

If the current operation's output queue is WLT controlled, these WIP lot/serials default to the WIP Lot Output Queue Receipt Data frame, (Figure 3.3). That output frame appears immediately after this input frame.

Fig. 3.2 WIP Lot Input Queue Issue Data



Updates to QOH and Tracing Records

The current operation's WIP QOH balances are updated to reflect the issue or receipt of this WIP material. The WIP lot/serials entered are recorded in tracing history as being consumed from the input queue of the current operation and produced into the output queue WIP lot/serials entered in the WIP Lot Output Queue Receipt Data frame.

WIP Lot Output Queue Receipt Data

Use the WIP Lot Output Queue Receipt Data frame to report the WIP lot/serial numbers, references, and quantities of the WIP material produced by an operation.

This frame appears in:

- Purchase Order Receipts (5.13.1) when the output queue of the current operation is WLT controlled.
- Repetitive Labor Transaction (18.14) when the output queue of the current operation is WLT controlled and is not the last routing operation.
- The programs listed in Table 3.3 if the previous two conditions are true, and only one lot/serial was entered.

If the current input queue is WLT controlled, the WIP lot/serial entered in the Input Queue WIP Lot Issue Data frame defaults to this frame. Assign this lot/serial, or assign a new one to the WIP material being produced.

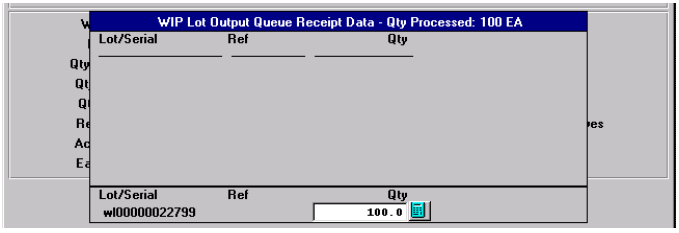


Fig. 3.3
WIP Lot Output Queue Receipt Data

For Advanced Repetitive, the total processed is the number entered in Qty Processed. This total includes the reject and scrap quantities. For Repetitive, the quantity processed is the number entered in Qty Completed. This quantity does not include scrap or reject quantities.

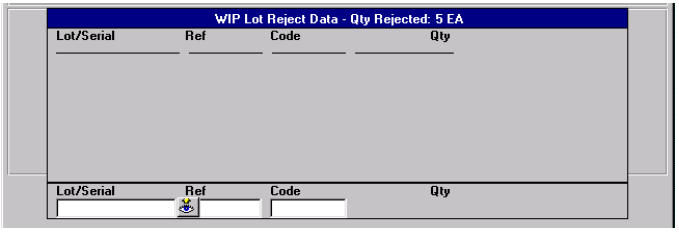
Table 3.3 Programs Displaying WIP Lot Output Queue Receipt Data Frame

Menu	Program
5.13.1	Purchase Order Receipts
16.19	Work Order Operation Backflush
17.1	Labor Feedback by Work Order
17.2	Labor Feedback by Employee
17.3	Labor Feedback by Work Center
18.14	Repetitive Labor Transaction
18.22.13	Backflush Transaction

Reporting Reject Data

Use the WIP Lot Reject Data frame to report the WIP lot/serial numbers, references, reject codes, and quantities of rejected material. The quantity is moved from the operation's output queue to the reject queue.

Fig. 3.4 WIP Lot Reject Data



This frame appears in the following programs when the output queue of the operation for which labor is being reported is WLT controlled and a quantity is entered in Qty Reject:

- Backflush Transaction (18.22.13)
- Repetitive Labor Transaction (18.14)
- Reject Transaction (18.22.16)
- Repetitive Reject Transaction (18.17)

Reporting Scrap Data

Four WLT frames are used to record lot/serials, references, scrap codes, and quantities of WLT-controlled material being scrapped from an operation's input, output, or reject queues:

- WIP Lot Scrap Data
- WIP Lot Reject Queue Scrap Data
- WIP Lot Input Queue Scrap Data
- WIP Lot Output Queue Scrap Data

WIP Lot Scrap Data

Backflush Transaction (18.22.13) uses this frame when the output queue of the operation for which labor is being reported is WLT controlled and a quantity is entered in Qty Scrapped.

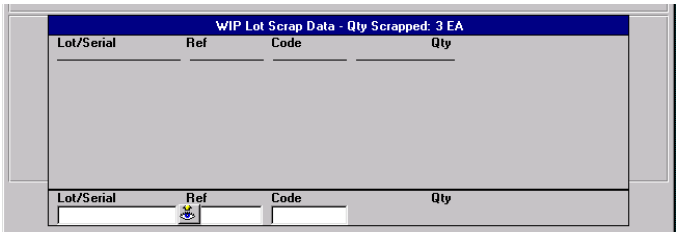


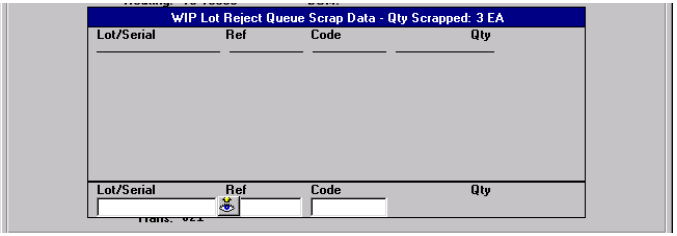
Fig. 3.5
WIP Lot Scrap Data

The quantity scrapped is deducted from the lot quantity entered in the WIP Lot Output Queue Receipt Data frame. It is added to the cumulative scrapped quantity.

WIP Lot Reject Queue Scrap Data

Use the WIP Lot Reject Queue Scrap Data frame to record WIP material being scrapped from an operation's reject queue. This frame displays in Scrap Transaction (18.22.18) when a reject quantity is entered in Rjct Queue and the reject queue is WLT controlled. It also displays in Repetitive Scrap Transaction (18.18).

Fig. 3.6
WIP Lot Reject Queue Scrap Data

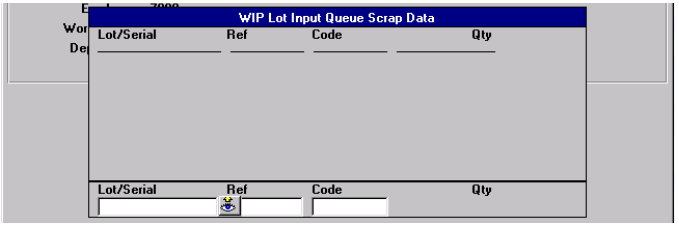


The quantity scrapped is deducted from the WIP QOH balance for the current operation's reject queue. It is added to the cumulative scrapped quantity.

WIP Lot Input Queue Scrap Data

Use the WIP Lot Input Queue Scrap Data frame to record the WLT-controlled material being scrapped from an operation's input queue. It displays in Repetitive Backflush Transaction (18.22.13).

Fig. 3.7
WIP Lot Input Queue Scrap Data



The quantity scrapped is deducted from the WIP QOH balance for the current operation's input queue. It is added to the cumulative scrapped quantity.

WIP Lot Output Queue Scrap Data

Use the WIP Lot Output Queue Scrap Data frame to record the WLT-controlled material being scrapped from an operation's output queue. It displays in Scrap Transaction (18.22.18).

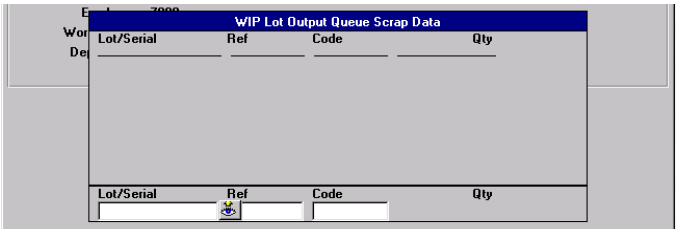


Fig. 3.8
WIP Lot Output Queue Scrap Data

Recording Labor Data

Use the Labor WIP Lots frame to associate run and setup labor time with corresponding lot/serials. This frame appears in the following programs when the output queue of the operation being processed is WLT controlled:

- Repetitive Setup Transaction (18.13)
- Run Labor Transaction (18.22.14)
- Setup Labor Transaction (18.22.15)

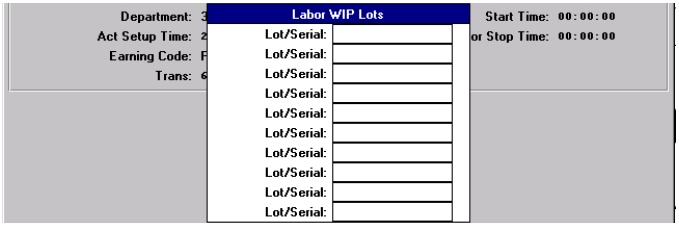


Fig. 3.9
Labor WIP Lots

Labor time reporting is not required. Any labor WIP lot/serial numbers entered are not validated. This frame links the labor and employee to the specified WIP lot/serial numbers. Labor time is reported as produced material by WLT reports.

Recording Rework Data

Use the WIP Lot Rework Data frame to specify the WIP lot/serial to rework. Optionally, use this frame to assign new WIP lot/serials to that WIP material.

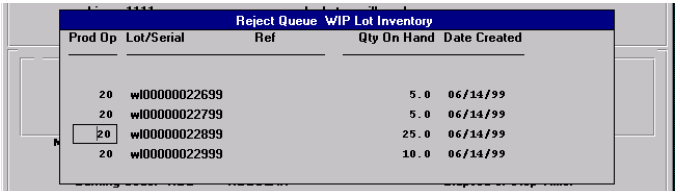
The WIP Lot Rework Data frame appears in the Repetitive Rework Transaction (18.16) and Rework Transaction (18.22.17) when the reject-from queue is WLT controlled. This frame appears immediately after the Destination Work Center and Machine frame.

Fig. 3.10
WIP Lot Rework Data



Items reworked can come from a previous operation's reject queue. Select Help to display the Reject Queue WIP Lot Inventory browse. Use this information to enter the correct values in the WIP Lot Rework Data frame.

Fig. 3.11
Reject Queue WIP Lot Inventory Browse



Before moving the reworked WIP lot/serial to the destination locations, the system checks the following settings in the WIP Lot Trace Control File or in the corresponding WLT routing and BOM registrations:

- Split WIP Lots
- Combine WIP Lots
- Max Lot Size

When you move reworked WIP lot/serial quantities to the last operation in a routing, you must enter material receipt information for the reworked WIP lot/serial. Receipt information is entered using the Receipt Data Input data frame. Values for Qty, UM, and Lot/Serial default from the values you previously entered in the transaction; Multi Entry is not editable. Lot/Serial and Ref default from the values you entered in the WIP Lot Rework Data frame.

QOH and Queue Balances

The information you enter in the WLT frames is used to adjust QOH balances and cumulative accounts for the input and output queues of the affected operations. The reject queue from where material was moved is reduced by the quantity reworked. The quantity reworked is added to the cumulative reworked, consumed, and produced quantities for the WIP lot/serial. When you receive reworked material into finished material inventory, that quantity is reduced from the QOH of the output queue of the last operation.

WIP Lot Move Data

Use the WIP Lot Move Data frame to record the WIP lot/serials, references, and quantities of material being moved. This frame does not appear if you are moving WIP quantities to finished goods inventory. Instead, the Receipt Data Input frame appears for receipt of finished goods into inventory.

You can use a WIP lot/serial number as the finished item lot/serial number. If you are using lot groups to create automatic lot numbers, that function creates and assigns the lot/serial number for this finished item. The lot/serial assigned to the finished item is saved to WLT tracing history.

Tip
Lot groups are a feature of the Compliance module.

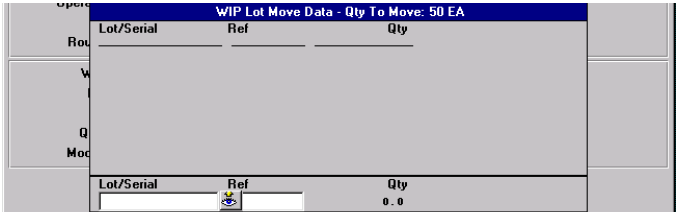


Fig. 3.12
WIP Lot Move Data Frame

The WIP Lot Move Data frame follows the Work Center and Machine frame in Move Transaction (18.22.19). Use the frame to specify quantities to move from the output queue of the indicated operation to the input queue of the next operation.

This frame appears in Sub Shipper Maintenance (18.22.5.5) and Sub Container Maintenance (18.22.5.4) when moving WLT-controlled WIP material to a subcontract operation. The lot/serial quantities you enter are

moved to the subcontract location when you confirm the shipper using Sub Shipper Issue (18.22.5.11).

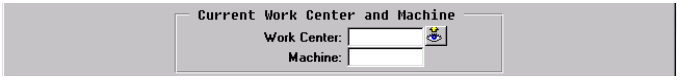
This frame also appears in Operation Move Transaction (17.6) immediately after the Source/Destination Work Center and Machine frame. The WIP lot/serials you specify in the WIP Lot Move Data frame are moved from the source location to the destination location you specify in the Source/Destination Work Center and Machine frame.

Current Work Center and Machine

Use this frame to specify the work center and machine location from which input WIP lot/serials will be consumed by the operation. For example, using Work Order Component Issue (16.10), this frame appears after you indicate the work order number, ID, and operation from where the components or WIP material will be issued.

The Current Work Center and Machine frame appears in Work Order Receipts (16.10) and Work Order Component Issue (16.10) when the operation being processed is WLT controlled.

Fig. 3.13 Current Work Center and Machine Frame



Using WLT with Work Orders

When using the WIP Lot Trace (WLT) module in a Work Orders manufacturing environment, you should be aware of the following points:

- Work Order Receipt Backflush (16.12) is disabled because it does not let you report production on an operation-per-operation basis.
- You must specify an operation when processing a receipt, issue, or labor transaction for a WLT-controlled work order.

The following sections describe the programs in the Work Orders module affected by WLT changes.

Processing a Work Order

The work flow in Figure 3.14 shows two alternative methods of processing a work order. The process consists of three steps:

- Issue components to the work order.
- Report labor performed.
- Receive finished goods.

WLT frames are used to collect information at each of these steps when you process a WLT-controlled work order. A work order is WLT controlled when:

- Trace Parents is Yes in the WIP Lot Trace Control File, or
- A WLT BOM registration is active for the parent item being manufactured and Trace Parents is Yes for that registration.

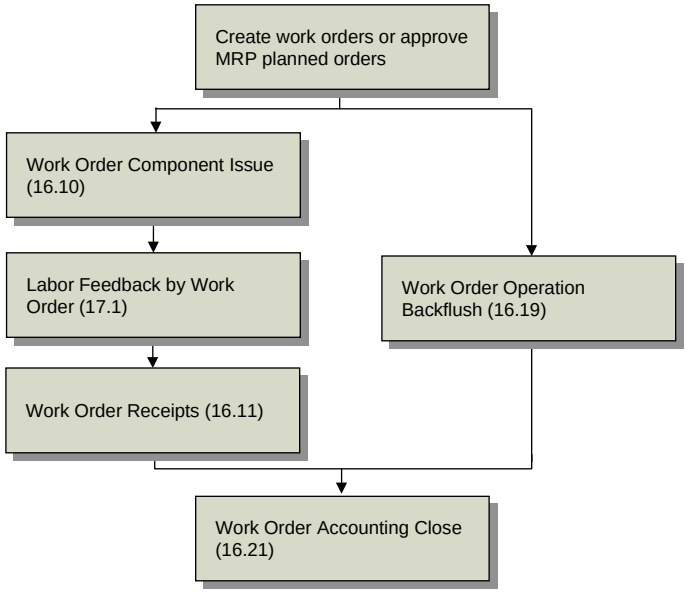


Fig. 3.14
Work Orders Work Flow

Assume that you trace WIP material through all work order operations. First, issue components to the first operation using Work Order Component Issue (16.10).

Use these three WLT frames to collect WIP lot/serial tracing information:

See page 47.
- Issued to WIP Lots

See page 44.
- Current Work Center and Machine

See page 36.
- WIP Lot Input Queue Issue Data

Note Issued to WIP Lots is the only frame used when issuing components to the first operation of a routing.

See page 35 and page 37.
After components are issued and the operation is complete, use Labor Feedback by Work Order (17.1) to report labor for the operation. Use the Destination Work Center and Machine and WIP Lot Output Queue Receipt Data frames to collect WIP lot/serial tracing information.

Issue components and report labor for the remaining operations. After all operations are complete, receive the finished goods into inventory using Work Order Receipts (16.11). Use the Current Work Center and Machine frame to indicate where the WIP lots or serials being received currently reside.

You can use Work Order Operation Backflush (16.19) as an alternative to following separate steps. It incorporates the functions of the three programs previously described. The WLT frames that display in the three separate programs also appear in Work Order Operation Backflush.

Issuing Component and WIP Material

Use Work Order Component Issue (16.10) to issue component and WIP material to WLT-controlled work orders. This program performs the following WLT functions:

- Prompts for WIP lot/serials to issue.
- Prompts for WIP lot/serials to be produced from the issued lot/serials.
- Consumes WIP lot/serials from WIP lot inventory balances.
- Updates and records WIP lot/serial QOH balances for all affected operation queues.

This program issues the WIP and component material you specify to the WIP lots you also specify. It updates WIP QOH balances and generates tracing records for components, WIP material issued, and WIP material

produced. Location and tracing information is entered in three WLT frames:

- Current Work Center and Machine
- WIP Lot Input Queue Issue Data
- Issued to WIP Lots

See page 44.

See page 36.

Issued to WIP Lots

The Issued to WIP Lots frame appears when the operation's output queue is WLT controlled. This WLT frame appears only in Work Order Component Issue. Use it to specify the produced WIP lot/serials to which the specified components and WIP material are being issued. The WIP material to be issued is specified in the WIP Lot Input Queue Issue Data frame that appears immediately before this frame.

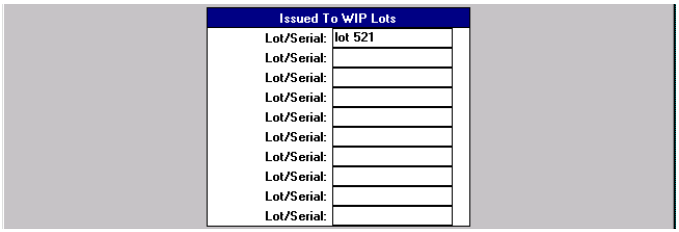


Fig. 3.15 Issued To WIP Lots Frame

Reporting Labor

The three Shop Floor Control labor feedback programs use the WLT Destination Work Center and Machine and WIP Lot Output Queue Receipt Data frames to capture tracing information for the labor being reported:

See page 35 and page 37.

- Labor Feedback By Work Order (17.1)
- Labor Feedback By Employee (17.2)
- Labor Feedback By Work Center (17.3)

See *User Guide Volume 3: Manufacturing.*

These labor feedback programs perform the following WLT functions:

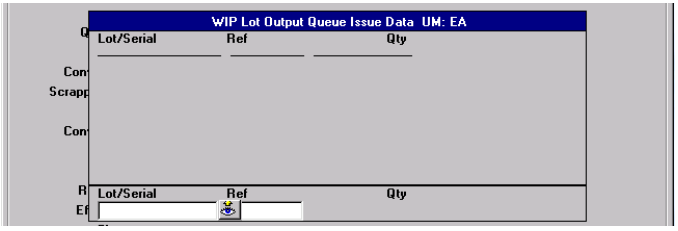
- Prompt for WIP lot/serial produced.
- Update and record WIP lot/serial QOH balances for affected queues.
- Record labor feedback and lot/serial tracing information.

Receiving Finished Goods

Use Work Order Receipt (16.11) to receive finished goods manufactured with WLT-controlled routings. Use the detail fields to specify the lot/serial, reference, and other details of the WIP material being received. This program consumes the WIP lot/serials being received into finished goods inventory. Then it updates WLT tracing history, WIP QOH balances, and receipt and issue information.

Use the Current Work Center and Machine frame to specify the work center and machine from where the WIP lot/serial inventory should be consumed. The WIP Lot Output Queue Issue Data frame is used to enter a list of the WIP lot/serials that should be consumed from the previous operation's output queue in the specified work center and machine. The WIP Lot Output Queue Issue Data frame appears only in Work Order Receipt.

Fig. 3.16
WIP Lot Output Queue Issue Data Frame



Calculating WIP QOH Balances

The system calculates and records WIP QOH balances for standard work orders in three steps:

- Each finished material lot/serial quantity moved into inventory is deducted from the corresponding QOH balance for the WIP lot/serial specified in the WIP Lot Output Queue Issue Data frame.
- The system checks QOH balances against settings in WIP Lot Trace Control File.
- QOH balances are recorded to tracing history.

Work Order Operation Backflush

Work Order Operation Backflush (16.19) combines:

See *User Guide Volume 3: Manufacturing.*

- The issuing functions of Work Order Component Issue (16.10)
- The labor reporting functions of Labor Feedback by Work Order (17.1)
- The receipt functions of Work Order Receipts (16.11)

Three WLT frames are used to collect WIP tracing information:

- WIP Lot Input Queue Issue Data See page 36.
- Destination Work Center and Machine See page 35.
- WIP Lot Output Queue Receipt Data See page 37.

Managing Scrap

Scrap refers to unusable materials. In the manufacturing process, there can be two kinds of scrap:

- Component materials issued to the work order that are unusable, known as *component item scrap*.
- Item materials built by the work order that are unusable, known as *finished item scrap*.

When additional component material is required for a work order because item material was lost or unusable, the replacement component materials should be issued to the work order with Work Order Component Issue (16.10). This correctly results in an unfavorable material usage variance for the order.

Reporting Scrap in Work Orders

Record finished material scrap using Work Order Receipt (16.11). Use Operation Scrap Transaction (17.7) to remove scrap WIP material from a work order operation. Use the WIP Lot Input Queue Scrap Data and WIP Lot Output Queue Scrap Data frame to record scrap lot/serials for material at WLT-controlled work order operations.

See page 40.

The program generates WO-SCRAP operation history records for transactions. It reduces QOH balances for the operation input and output

queues for the lot/serial quantities specified in the WLT frames. The scrapped quantities are also added to the cumulative scrapped quantities for the lot/serials. The cumulative scrapped quantity for each queue is also increased by the lot/serial quantity scrapped.

You can report reject materials at the operation level using Shop Floor Control. However, only units recorded as scrap during work order receipt affect the general ledger (GL), debiting Scrap and crediting WIP. Rejects recorded in Shop Floor Control are for reporting only, and have no GL effect.

Processing a Subcontract WO Operation

Processing a subcontract work order operation when using WLT adds a few minor steps to the normal procedure.

1 Create a subcontract purchase order for the work order operation using Purchase Order Maintenance (5.7).

   a Set Type to S for subcontract.

   b Use the work order subcontract information frame to optionally specify the work order, ID, and operation where the subcontract services are required.

   c Optionally specify the WIP lot/serial of that material. This lot/serial prints on reports generated by Purchase Order Print (5.10).

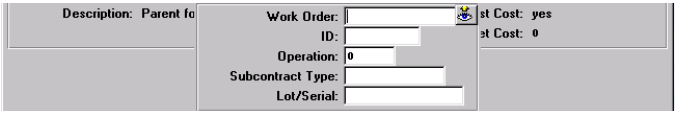


Fig. 3.17 Work Order Subcontract Information

2 Use Work Order Component Issue (16.10) to issue the components for the operation. For example, many manufacturers send component item kits and WIP to their subcontractors or subcontract assemblers. In these situations, you issue the components and WIP.

   a Use the WLT Current Work Center and Machine frame to specify the subcontract work center and machine to which components will be issued for this subcontract operation.

b Use the WIP Lot Input Queue Issue Data frame to specify the lot/serials sent to the subcontractor.

c Use the Issued to WIP Lots frame to specify the lot/serials processed and returned by the subcontractor.

3 Report completed subcontract labor using Labor Feedback by Work Order (17.1).

a Operation Complete should be No.

b Move Next Op should be Yes.

c Use the WIP Lot Output Queue Data frame to specify the WIP lot/serials produced. Lot/serials default from the lot/serials entered in the Issued To WIP Lots Data frame.

4 Register the subcontract processing performed when you receive the subcontract material using Purchase Order Receipt (5.13.1). The work order operation is automatically closed.

Processing Subcontract Operations for Multiple Subcontractors

Follow the procedure for a single subcontractor with the following additional steps:

See “Processing a Subcontract WO Operation” on page 50.

- Create a separate subcontract purchase order for each subcontractor being used at the work order operation.
- When you issue the components and WIP for the subcontract operation, use the WLT Current Work Center and Machine frame to specify the specific subcontractor that will process the operation.

Use the WIP Lot Inventory Status Report (3.22.13.13) to see where specific WIP and item component material reside during manufacturing.

Using WLT with Advanced Repetitive

The following sections describe the Advanced Repetitive programs affected by WLT changes.

Backflushing WIP Material

Use Backflush Transaction (18.22.13) to report production activity. This program uses five frames to collect WLT information. WLT frames appear and are used only when backflushing operations for WLT-controlled routings.

Use the WLT frames to record WIP material lot/serial information for the current operation's input, output, scrap, and reject queues. Use the Destination Work Center and Machine frame to specify where the produced WIP material will be moved. This frame appears only when Move to Next Op is Yes. WLT frames added to Backflush Transaction appear in this order when the corresponding queue is WLT controlled:

See page 36.
- WIP Lot Input Queue Issue Data

See page 35.
- Destination Work Center and Machine

See page 37.
- WIP Lot Output Queue Receipt Data

See page 38.
- WIP Lot Reject Data

See page 39.
- WIP Lot Scrap Data

Reporting Run and Setup Labor

See page 41.

WLT adds the Labor WIP Lots frame to Run Labor Transaction (18.22.14) and Setup Labor Transaction (18.22.15). Any run or setup labor you report for WLT-controlled operations is associated with the WIP lot/serials you indicate in this frame.

Use WIP Lot Convert Trans Report (3.22.13.15) or Operation Trans Detail Inquiry (18.22.4.2) to review the labor associated with any WIP lot/serial.

Reworking Rejected Material

Use Rework Transaction (18.22.17) to move previously rejected WLT-controlled material back into production. Use the WIP Lot Rework Data frame to indicate which lot/serials were reworked. The reworked WIP material is moved to the location you indicate in To Operation and To Queue in the work center and packing list you specify in the Destination Work Center and Machine frame.

See page 35 and page 42.

Scrapping Reject Material

Use Scrap Transaction (18.22.18) to scrap or remove WIP quantities from any queue of an operation without backflushing. If you scrap quantities from a WLT-controlled queue, use the WLT frames to specify the lot/serials of the WIP material you are scrapping. Depending on which queue you are scrapping material from, these WLT frames can appear:

- WIP Lot Input Queue Scrap Data See page 40.
- WIP Lot Output Queue Scrap Data See page 41.
- WIP Lot Reject Queue Scrap Data See page 40.

The WIP QOH at each queue is reduced by the quantity scrapped at the indicated work center and machine. Additionally, the quantity scrapped is added to the cumulative scrapped quantity for the indicated lot/serials.

Adjusting WIP Quantities for WLT-Controlled Queues

Use WIP Adjust Transaction (18.22.21) to adjust quantities at an operation's input, output, or reject queues. The current queue balances display when you run the program.

When adjusting quantities for WLT-controlled operations, Reason Code and the three queue quantity fields are not editable. Use the WLT frames to specify adjustments to QOH balances for the WIP lot/serials in each queue. You can create entries for new lot/serials and optionally enter reason codes as needed. One WLT frame is used for each queue.

The three WLT frames appear in this order:

See page 40.

- WIP Lot Input Queue Adjust Data

See page 41.

- WIP Lot Output Queue Adjust Data

See page 39.

- WIP Lot Reject Queue Adjust Data

Using WLT with Purchasing

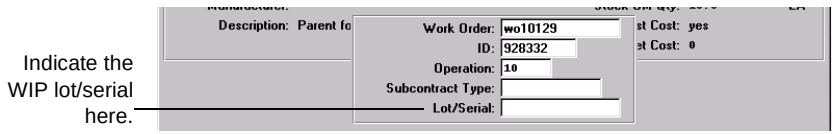
Various purchasing programs used to support subcontracting let you trace subcontract WIP material only when using the Advanced Repetitive module. The following points should be noted:

- You can enter the lot/serial of subcontract material when creating the PO. This lot/serial prints on the report produced by Purchase Order Print (5.10).
- PO Shipper Maintenance (5.13.14), PO Container Maintenance (5.13.13), and PO Shipper Receipt (5.13.20) cannot process any subcontract PO line item that references a WLT-controlled operation.

Purchase Order Maintenance

Part of the subcontracting process is to use Purchase Order Maintenance (5.7) to create a subcontract PO for the subcontract operation. When creating a subcontract PO for line items that reference Advanced Repetitive cumulative orders, use the lot/serial field to enter the WIP lot/serial number of the material being sent for subcontract processing.

Fig. 3.18
Purchase Order Maintenance WLT Lot/Serial Field



The lot/serial entered in this field defaults as the input lot/serial number in the WIP Lot Input Queue Issue Data frame in Purchase Order Receipts when the order is being received. This value also prints on reports generated by Purchase Order Print (5.10).

Receiving Subcontract POs

Purchase Order Receipts (5.10) captures line item receipt data for subcontract-type lines that reference Advanced Repetitive cumulative order operations that are WLT controlled.

This program cannot be used to backflush lot/serial controlled components, or components that cannot be issued from the default issue location. Use Backflush Transaction (18.22.13) to manually backflush the operation for the component material received. If you attempt to receive this type of component material, only the extended subcontract cost for the PO is added to the cumulative order operation's cumulative subcontract cost.

Use the WIP Lot Input Queue Issue Data frame to enter details of the WIP material being consumed from the input queue of the subcontract operation. Use the WIP Lot Output Queue Receipt Data frames to record details of the material being produced and moved to the output queue of this subcontract operation.

The system backflushes these WIP lot/serial numbers. The input WIP lot/serials are consumed, and the output WIP lot/serials are produced. WIP lot/serial QOH balances, cumulative totals, and tracing history records are updated accordingly. The supplier ID is used as the work center ID to update WIP lot/serial QOH balances.

When WIP Lot Trace (WLT) is active, all of the inventory-related fields in the purchase order receipt detail are disabled, including Site, Location, Lot/Serial, Ref, Supplier Lot, Multi Entry, and Change Attributes. All lot/serial information should be specified using the WLT frames that display.

Note If Move to Next Op is Yes, then the WIP lot/serials specified in the WIP Lot Output Queue Receipt Data frame are moved to the input queue of the next milestone operation.

Returning Purchased Materials

Purchase Order Returns (5.13.7) updates QOH balances, cumulative totals, and WLT tracing history to reflect the return of materials at a subcontract operation. The WIP Lot Input Queue Issue Data and WIP Lot Output Queue Receipt Data frames appear when processing WLT-controlled material. Any material being returned is reverse backflushed.

For example, instead of receiving material to WIP, material is removed from WIP. The system basically processes a PO receipt with all negative quantities.

If Move To Next Operation is Yes, the system removes WIP lot/serials from WIP inventory at the input queue of the first milestone operation following the subcontract operation. When this value is No or a milestone operation does not exist after the subcontract operation, then the system removes the WIP lot/serials from the output queue of the subcontract operation.

Processing a Subcontract Operation

Processing a subcontract operation when using WIP Lot Trace and Advanced Repetitive adds a few minor steps to the subcontract procedure.

Note This procedure assumes that you have already backflushed all operations previous to the subcontract operation.

1. Create a scheduled order in Scheduled Order Maintenance (5.5.1.13). Specify the appropriate cumulative work order ID and subcontract operation.
2. Create a subcontract shipper in Sub Shipper Maintenance (18.22.1.13).
   a. Use the parent item site as the ship-from and the supplier as the ship-to.
   b. Use the cumulative order ID and subcontract operation used on the scheduled order.
   c. Specify the WIP lot/serials and quantity being sent to the subcontractor in the WLT WIP Lot Move Data frame. Select Help to display a list of WIP lot/serials produced at the previous operation.

See page 43.

3. Print the subcontract shipper using Sub Shipper Print (18.22.5.9). The WIP lot/serials entered in the WIP Lot Move Data frame display as Lots Shipped.

4 Confirm the subcontract shipper using Sub Shipper Issue (18.22.5.11). This moves the indicated WIP lot/serials from the output queue of the previous operation to the input queue of the indicated operation.

5 Receive the scheduled order in Purchase Order Receipts (5.13.1).

   a Use the WIP Lot Input Queue Issue Data frame to specify the WIP lot/serials that were sent to the subcontractor. Select Help to display a list of WIP lot/serials as they appeared on the subcontract shipper.

See page 36.

   b Use the WIP Lot Output Queue Receipts Data frame to specify the WIP lot/serials being received from the subcontractor. The lot/serial you entered in the input queue frame defaults to the output queue frame.

See page 37.

Processing a Subcontract Operation for Multiple Subcontractors

Follow the procedure outline above, with the following additional steps:

- Create a separate subcontract scheduled order for each subcontractor being used at the work order operation.
- Create, confirm, and print separate subcontract shippers for each subcontractor.
- When you backflush the next operation, the subcontract WIP lot/serials you received in the Purchase Order Receipts Output Queue Receipt Data frame appear on the WIP Lot Input Queue Issue Data frame browse.

Use the WIP Lot Inventory Status Report (3.22.13.13) to display the operation and queue where specific WIP and item material is located during manufacturing.

Using WLT with Repetitive

The following sections describe the Repetitive programs affected by WLT changes.

WLT in Repetitive and Advanced Repetitive

See page 55.

WLT makes many of the same changes to Repetitive and Advanced Repetitive programs.

- The changes made to the Rework Transaction (18.22.17) are also made to the Repetitive Rework Transaction (18.16).
- Likewise, Repetitive Setup Transaction (18.13) is modified in the same way as the Advanced Repetitive module's Labor Transaction (18.22.15).

When you use these programs to process any WLT-controlled material, the same WLT frames appear.

Reporting Labor

See page 52.

Repetitive Labor Transaction (18.14) uses the same WLT frames as Backflush Transaction (18.22.13). WLT frames appear and are used only when processing WLT-controlled material.

The WLT frames are used to enter input, output, and reject WIP lot/serials and quantities. This information is used to record the appropriate tracing records and update WIP lot/serial QOH balances.

Use the WLT frames to enter WIP material lot/serial information for the current operation's input, output, and reject queues. Use the Destination Work Center and Machine frame to specify where the backflushed material will be moved. This frame appears only when Move to Next Op is Yes.

WLT frames added to this program appear in this order when the corresponding queue is WLT controlled:

- WIP Lot Input Queue Issue Data See page 36.
- Destination Work Center and Machine See page 35.
- WIP Lot Output Queue Receipt Data See page 37.
- WIP Lot Reject Data See page 38.

Handling Reject Material

The Repetitive Reject Transaction (18.17) displays the WIP Lot Input Queue Issue Data and WIP Lot Reject Data frames. Use these frames to enter the input lot/serials to issue and reject WIP lot/serials to produce. The information entered in these frames updates tracing history records and WIP lot/serial QOH balances.

See page 36 and page 38.

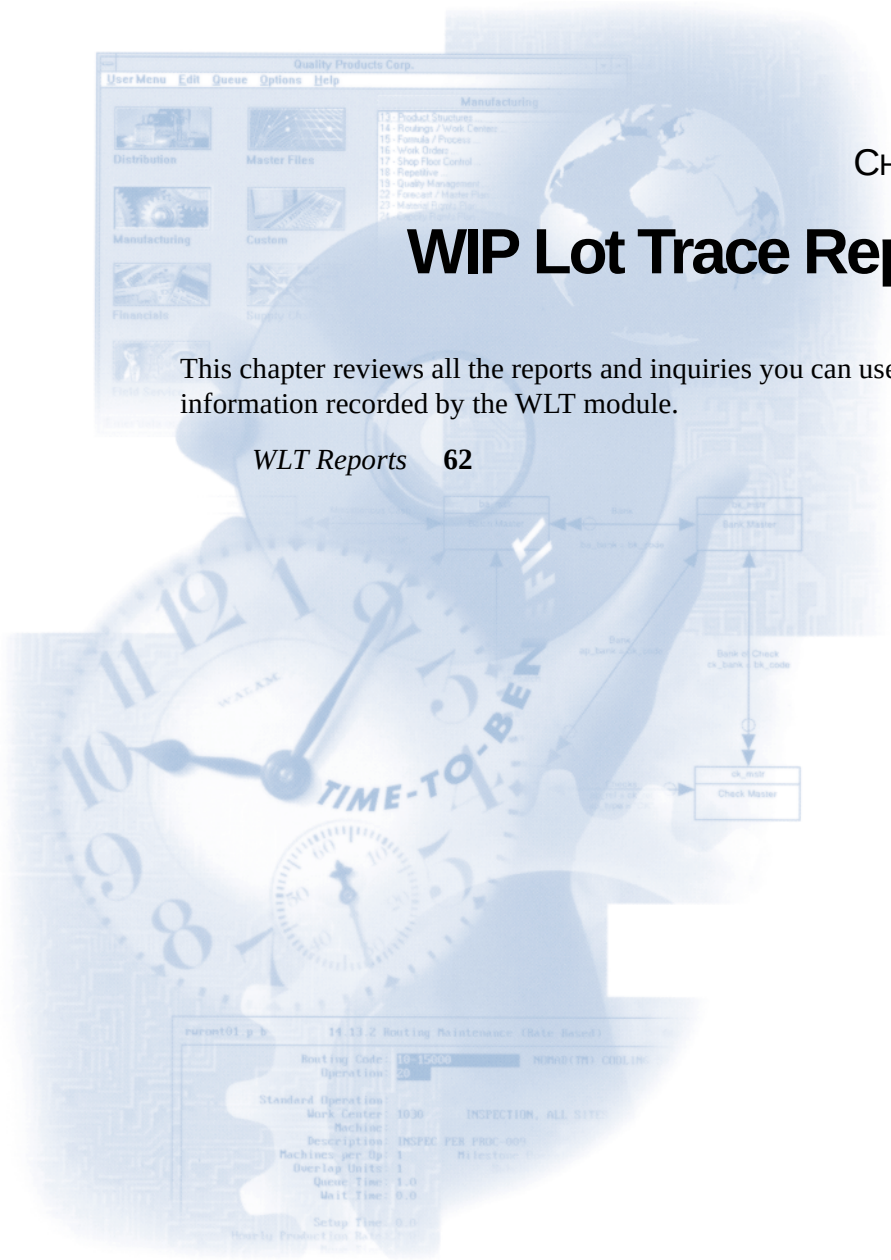
Tracing Scrap Material

When scrapping WLT-controlled material, the Repetitive Scrap Transaction (18.18) displays the WIP Lot Reject Queue Scrap Data frame. Use it to enter the WIP lot/serial and quantity of the material being scrapped. The information you enter updates tracing history records and WIP lot/serial QOH balances.

See page 40.

Reporting Repetitive Transaction History

The Repetitive Trans Detail Inquiry (18.4.2) is modified to display WIP lot/serial information connected with an operation history record. Any tracing records associated with the operation history record are displayed. Additionally, any WIP lot/serials recorded by a scrap, reject, rework, or adjust transaction are also displayed.



CHAPTER 4

WIP Lot Trace Reports

This chapter reviews all the reports and inquiries you can use to view information recorded by the WLT module.

WLT Reports **62**

WLT Reports

The WIP Lot Trace module provides 10 reports and inquiries for reviewing WLT data. These reports and inquiries are designed to clearly show consumption and production data at the operation and WIP lot/serial level.

Some existing reports and inquiries also display WLT data.

Using WLT Reports

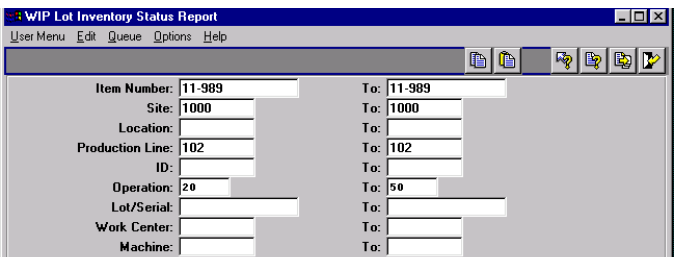
When using WLT, you should use the WLT reports to report any WLT-controlled WIP and item component material. WLT does not trace WIP at non-milestone operations even if those operations belong to a WLT-controlled routing.

If you use Advanced Repetitive reports to view QOH balances for WLT-controlled routings or BOMs, the report may show that there is WIP material in the input queue of non-milestone operations. If you report for the same routing or BOM using WLT reports, these reports will show that the WIP lot/serial QOHs are in the input queue of the following milestone operation.

WIP Lot Inventory Status Report

Use the WIP Lot Inventory Status Report (3.22.13.13) to view the status of WIP lot inventory. The report displays the WIP lot inventory associated with each discrete work order, or repetitive cumulative work order.

Fig. 4.1
WIP Lot Inventory Status Report (3.22.13.13)



Item Lot Ship Transaction Report

The Item Lot Ship Transaction Report (3.22.13.14) produces a report showing ISS-SO transaction history (tr_hist) records created by Sales Order Shipments (7.9.15) or Pre-Shipper/Shipper Confirm (7.9.5) for a selected finished material lot. With this information, you can easily identify the customer or ship-to where the finished material lot was shipped.

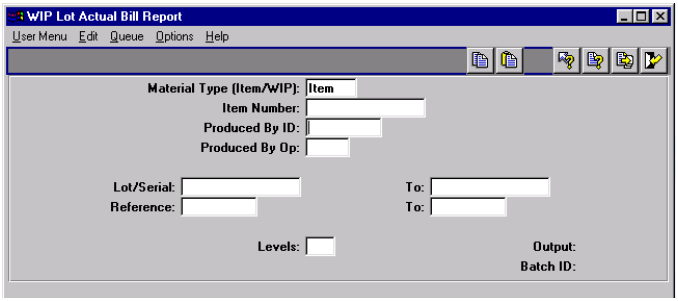


Fig. 4.2
Item Lot Ship Transaction Report (3.22.13.14)

WIP Lot Convert Trans Report

The WIP Lot Convert Trans Report (3.22.13.15) shows operation history (op_hist) data and tracing information for transactions where material conversion occurred. This refers to, for example, any operation where a component is introduced and becomes part of the WIP material, or where a rejected WIP material was reworked and assigned to a different lot/serial.

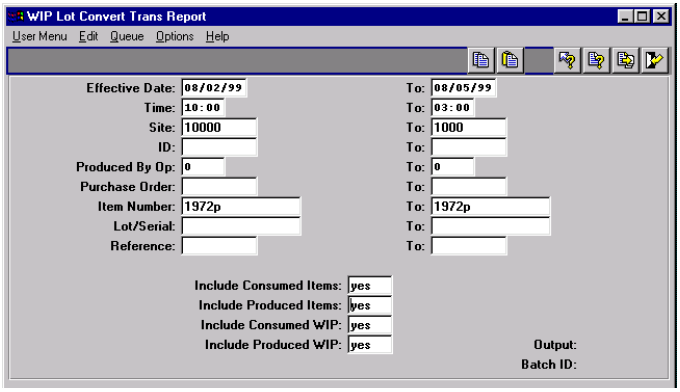


Fig. 4.3
WIP Lot Convert Trans Report (3.22.13.15)

The report shows the data recorded in these programs:

- Purchase Order Receipts (5.13.1)
- Purchase Order Returns (5.13.7)
- Work Order Issue (16.10)
- Work Order Receipt (16.11)
- Work Order Operation Backflush (16.19)
- Labor Feedback by Work Order (17.1)
- Labor Feedback by Employee (17.2)
- Labor Feedback by Work Center (17.3)
- Repetitive Setup Transaction (18.13)
- Repetitive Labor Transaction (18.14)
- Repetitive Rework Transaction (18.16)
- Repetitive Reject Transaction (18.17)
- Backflush Transaction (18.22.13)
- Run Labor Transaction (18.22.14)
- Setup Labor Transaction (18.22.15)
- Rework Transaction (18.22.17)

WIP Lot Non-Convert Trans Report

The WIP Lot Non-Convert Trans Report (3.22.13.16) shows operation history data that references WIP lot and serial numbers, but does not include records where material was converted.

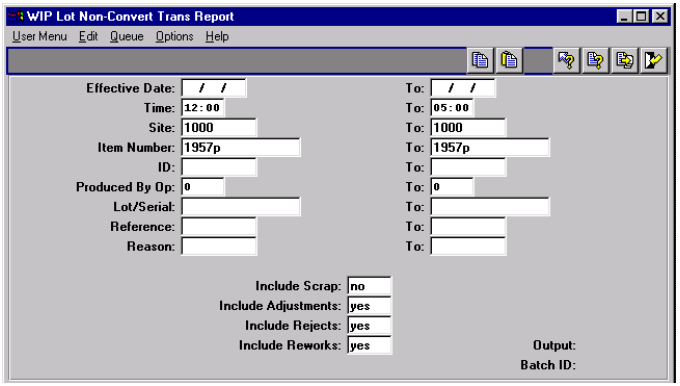


Fig. 4.4
WIP Lot Non-Convert Trans Report (3.22.13.16)

WIP lot and serial numbers recorded during transactions in the following programs are reported:

- Repetitive Reject Transaction (18.17)
- Reject Transaction (18.22.16)
- Repetitive Rework Transaction (18.16)
- Rework Transaction (18.22.17)
- Repetitive Scrap Transaction (18.18)
- Scrap Transaction (18.22.18)
- WIP Adjust Transaction (18.22.21)

Note Information recorded in the rework transaction is reported only if the WIP lot or serial numbers remained the same for the reworked material.

WIP Lot Inquiry

Use WIP Lot Inquiry (3.22.13.17) to display WIP lot cumulative quantities by lot or work order ID at each operation. The cumulative totals displayed at each operation are:

- Cumulative quantity produced
- Cumulative quantity consumed
- Cumulative quantity scrapped
- Cumulative quantity adjusted
- Cumulative quantity rejected
- Cumulative quantity reworked
- Cumulative quantity transferred in
- Cumulative quantity transferred out

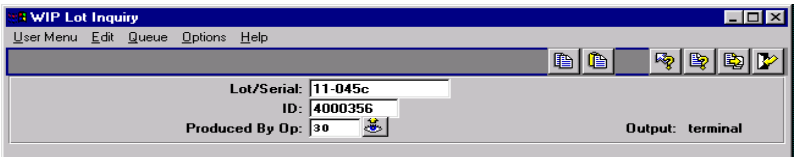
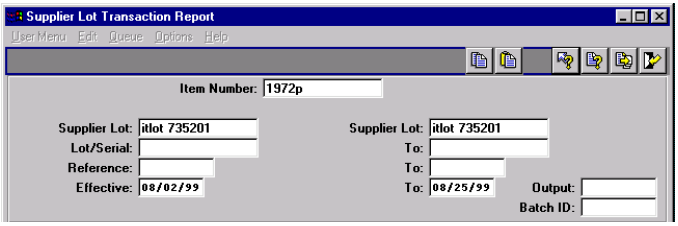


Fig. 4.5
WIP Lot Inquiry (3.22.13.17)

Supplier Lot Transaction Report

Use Supplier Lot Transaction Report (3.22.13.18) to generate a report of PO Receipt transactions for the selected item, where a supplier's lot number was entered into the Supplier Lot number field. Use the report to identify the supplier lot associated with an internally assigned lot.

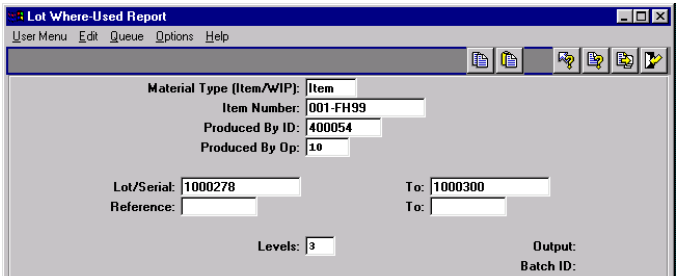
Fig. 4.6
Supplier Lot Transaction Report (3.22.13.18)



WIP Lot Where Used Report

Use the WIP Lot Where Used Report (3.22.13.19) to generate a where-used report for selected component or WIP material lots. The report shows where WIP material or component lots were consumed, and what material lots were produced from them.

Fig. 4.7
Lot Where Used Report (3.22.13.19)



WIP Lot Actual Bill Report

Use the WIP Lot Actual Bill Report (3.22.13.20) to generate a report that shows what material was used to make a WLT-tracked finished or WIP lot. The reports shows issue and receipt transactions related to the WIP or parent material.

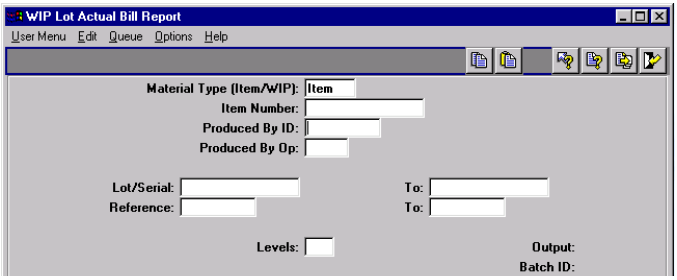


Fig. 4.8
WIP Lot Actual Bill Report (3.22.13.20)

SECTION 2

Self-Billing

This section contains information on the PRO/PLUS Self-Billing module. The following chapters are included:

Introduction to Self-Billing **71**

Preparing to Use Self-Billing **77**

Creating Self-Bills **81**

Maintaining Self-Bills **89**

Self-Billing Reports and Inquiries **103**

CHAPTER 5

Introduction to Self-Billing

This chapter introduces Self-Billing functions and features.

Overview **72**

Reviewing Traditional Self-Billing **72**

Customer-Initiated Payments **73**

Self-Bill Document **74**

Self-Billing Programs **75**

Overview

Use the Self-Billing module to process customer-initiated payments by applying payment to invoices based on line-item shipper details, including:

- Customer details
- Purchase order (PO) number
- Kanban number
- Release authorization number (RAN)
- Evaluated receipt settlement (ERS) payment references

See *User Guide Volume 4A: Financials* for a discussion of ERS.

With Self-Billing you can:

- Automatically enter customer remittance information using Document Import (35.13).
- Automatically enter remittance information based on hard-copy customer remittance advice.
- Manually enter remittance information into MFG/PRO eB.
- Apply under- or over-payment credit to accounts receivable based on such documents.
- Apply batch payments to invoices and memos referenced on self-bills.

Reviewing Traditional Self-Billing

In the automotive industry, suppliers often do not send invoices to their customers. Instead, the customer remits a self-bill. This document details shipments received and amount due to the supplier for these shipments. The amount also reflects any deductions for defective or damaged parts, and any other pertinent credits due. This document is called a self-bill because the customer decides the payable amount instead of relying on an invoice from the supplier.

Figure 5.1 shows the traditional self-bill work flow.

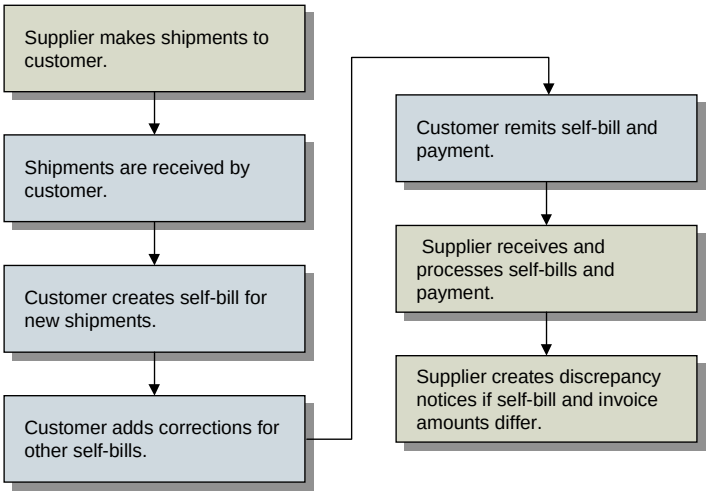


Fig. 5.1
Traditional Self-Bill Work Flow

The self-bill is remitted to the supplier, who then processes it and compares it with open invoices. When the self-bill information is entered into the system, it is mapped to an invoice.

If the supplier notes any discrepancy between the self-bill and their records, the customer must be notified within a predefined period for corrections to be made. In some situations, a self-bill is remitted and only later is the payment made. In other situations, payment may accompany the self-bill.

The payment remitted reflects the self-bill and any agreed-upon corrections from previous self-bills. Each supplier-customer relationship usually sets up specific rules for reconciling discrepancies. Sometimes these must be written off as losses by either the supplier or the customer.

Customer-Initiated Payments

Self-Billing lets you process customer-initiated payments based on the various types of information remitted on the customer's document. Reconciliation is not limited to just the document number.

Many industries do not use the traditional self-billing methodology. In some situations, suppliers do send invoices to their customers. However, customers disregard these and, as in the traditional self-billing environment, send their own type of remittance advice document to their

supplier. This customer remittance document contains different details, based on the specific industry. These details can include customer bill-to, PO numbers, kanban numbers, RANs, shipper numbers, invoice line-item numbers, sales order (SO) numbers, and others.

The customer remittance document must always include an amount payable to the supplier. This can also be in the form of an ERS payment. The amount can reflect any adjustments for defective or damaged parts and any other pertinent credits due.

Unlike the traditional self-bill process, other industries do not necessarily rely on the customer-remitted document number as reference to the original supplier invoice. Instead, the supplied information must be used to reconcile the customer's remittance document to the supplier's invoice records.

Self-Bill Document

A customer remittance or self-bill can be remitted in two forms: hard copy or an EDI transaction. In either case, the information received on the self-bill is defined by the customer and should be the same in either form. The information on a self-bill can, but does not need to, include the following types of information:

- Adjustments and corrections from previous self-bills
- Partial payment for a shipment
- Full payment for a shipment
- Trailer charges on selected invoices (trailer charge self-bill lines)

  Freight and special handling charges are grouped into this category.
- Tax charges on select invoices (tax self-bill lines)

Self-Billing Programs

The Self-Billing module uses the following programs.

Table 5.1 Self-Billing Programs

Menu Number	Description	Program Name
27.6.12.1	Self-Bill Maintenance	arsbmt.p
27.6.12.4	Self-Bill Auto Create	arsbac.p
27.6.12.7	Self-Bill Payment Application	arsbpap.p
27.6.12.8	Self-Bill Payment Undo	arsbpu.p
27.6.12.10	Self-Bill Discrepancy Report	arsbrp02.p
27.6.12.11	Invoice/Memo AR Balance Report	arsbrp03.p
27.6.12.13	Self-Bill Report	arsbrp.p
27.6.12.15	Shipment-Invoice Crossref Report	arsbsirp.p
27.6.12.23	Self-Bill Delete/Archive	arsbdel.p
27.6.12.24	Self-Billing Control File	arsbpm.p
35.13	Document Import	edimport.p

CHAPTER 6

Preparing to Use Self-Billing

This chapter describes how to prepare your system to use Self-Billing programs, and how to activate self-billing functionality.

Introduction **78**

Activating Self-Billing **78**

Setting Up Customers **79**

Capturing Self-Billing Data **79**

Introduction

AR Self-Billing uses processed shipping information to match incoming customer-initiated payments. The system must first process shipping information for the incoming remittance.

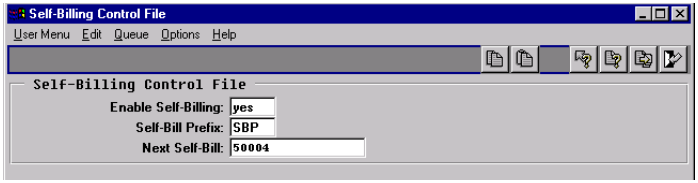
Shipment details are captured at the time a shipper is confirmed. Invoice, tax, order-level discount, and trailer information is captured at the time of invoice posting.

Note The sales order shipment program does not capture self-billing information.

Activating Self-Billing

To use Self-Billing, you must activate it in the Self-Billing Control File (27.6.12.24).

Fig. 6.1
Self-Billing Control File (27.6.12.24)



In the Self-Billing Control File, set the following parameters:

1. Set Enable Self-Billing to Yes.
2. Define the three-character, self-bill numbering prefix according to your MFG/PRO eB environment.
3. Enter the next self-bill number (maximum 20 characters).

Setting Up Customers

Prior to processing customer-initiated payments, you must set Capture Self-Billing Information to Yes in Customer Maintenance (2.1.1) for all relevant bill-to addresses (see Figure 6.2). Self-billing information is captured only for bill-to addresses with this flag set to Yes. This field is the only indicator that self-bill information should be collected. The Capture Self-Billing Information field displays only after you activate self-billing in the Self-Billing Control File.

To activate self-billing data collection in Customer Maintenance for customers already in your system, enter the customer ID and press Go. The Capture Self-Billing Information pop-up appears as you proceed through the maintenance frames.

When this field is Yes, the system captures data for both discrete and scheduled orders when Pre-Shipper/Shipper Confirm (7.9.5) is run.

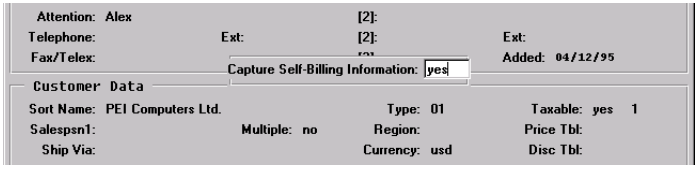


Fig. 6.2 Customer Maintenance Self-Billing Pop-Up (2.1.1)

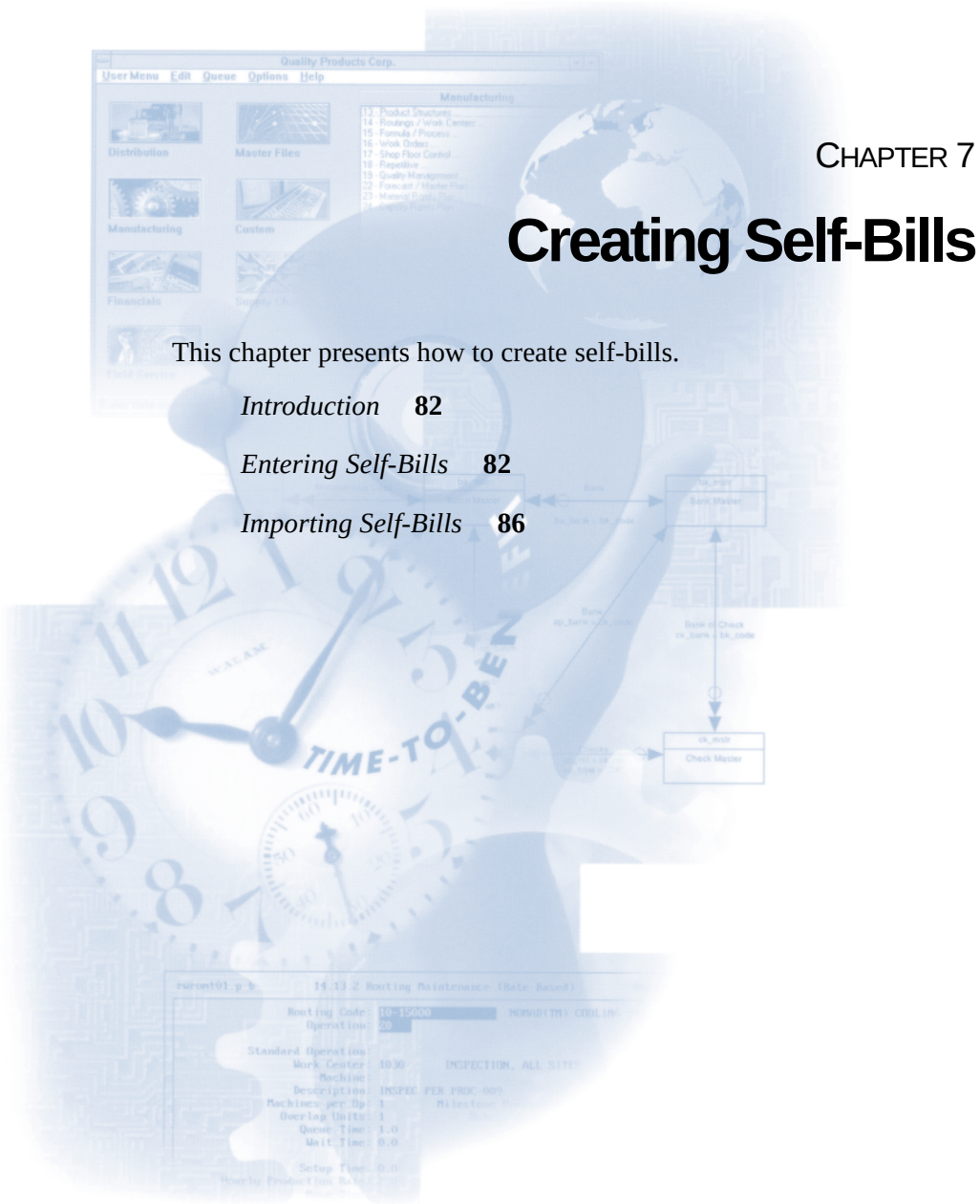
Capturing Self-Billing Data

Once you have activated Self-Billing and set up the customers that use it, you must allow sufficient time for your system to capture required customer data before you can begin to process customer-initiated payments.

To begin capturing self-billing data:

1. Use shippers to process all shipments that may be referenced on future self-bills.
2. Invoice and post to AR all shipments that may be referenced on a future self-bill.

Note The item numbers to be referenced on future self-bills must be used on the original sales order. These items are either the customer's item numbers or your internal item numbers, whichever appear on the customer-remitted document.



CHAPTER 7

Creating Self-Bills

This chapter presents how to create self-bills.

Introduction **82**

Entering Self-Bills **82**

Importing Self-Bills **86**

Introduction

See Chapter 6, “Capturing Self-Billing Data,” on page 79.

Before you can begin to process customer-initiated payments, the corresponding shipping data must be collected for discrete sales orders and scheduled orders by Pre-Shipper/Shipper Confirm (7.9.5). You must allow a period of time for this shipping data to be captured before you begin to process any self-bills. During this time period, post all invoices to AR for shipments to customers that use self-bills.

Entering Self-Bills

Self-Bill Auto Create (27.6.12.4) facilitates the task of entering customer remittance advice into your system. With this program, you specify a range of selection criteria as shown on the customer’s remittance advice. You can then associate the payment information with the correct invoice. You assign a self-bill number, or the system generates a self-bill number and assigns it to the document you are creating.

See Chapter 8, “Matching Adjustment Self-Bill Lines,” on page 96.

In certain situations, you may not be able to associate some lines from a customer’s remittance advice to the self-bill you are creating. These lines are labeled adjustment self-bill lines. You must manually associate these lines with the corresponding invoice lines using Self-Bill Maintenance (27.6.12.1).

Once you create the self-bill using Self-Bill Auto Create, Self-Bill Maintenance is automatically invoked so you can associate any adjustment self-bill lines with the corresponding invoice shipment.

The auto-create process consists of four steps:

1. Create a new self-bill by defining selection criteria.
2. Use the Self-Bill Workbench to refine the selection by deselecting any lines that should not be referenced on this self-bill.
3. Print, review, and add selections to the self-bill.
4. Use Self-Bill Maintenance to further define these selections so that they correctly reflect the information on the customer-remitted self-bill.

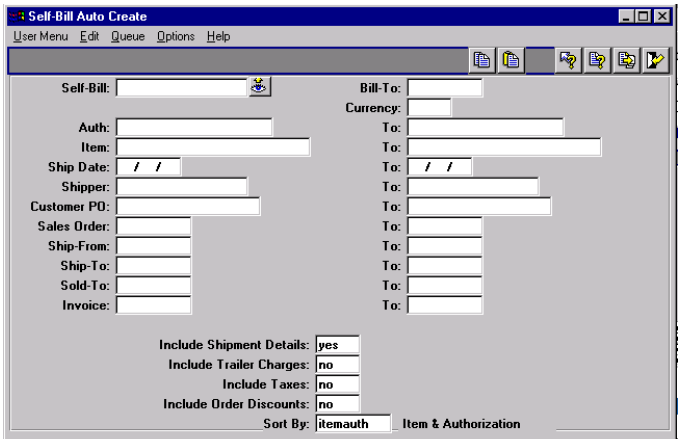


Fig. 7.1
Self-Bill Auto Create (27.6.12.4)

Entering Auto Create Fields

Self-Bill. Enter the self-bill to which the selections are to be added.

When left blank, a self-bill number is generated using control file default information.

Specifying an existing self-bill number adds selections to that self-bill. Specifying any other number in this field creates a new self-bill for that number and selections are added to it.

Bill-To. Enter the bill-to for which the selection is to be made. This is the customer's address.

When entering information for an existing self-bill, you must also enter that bill-to.

All shipments referenced on the shipper must be paid by the same bill-to.

Currency. Enter the currency for this self-bill document.

All shipments referred to on the self-bill must be invoiced in the same bill-to currency. Only this currency can be used on this self-bill.

Currency is mandatory. When a self-bill is specified in the Self-Bill field, data defaults from that self-bill's bill-to.

Authorization. Enter the authorization number sent by the customer to identify a shipment. Release Authorization Number (RAN), Dealer

Order Number (DON), and kanban numbers are examples of authorization numbers.

See “Shipment-Invoice Crossref Report” on page 107.

When you add detail lines, you can enter an authorization number to select shipments from the shipment-invoice cross-reference table.

Sort By. Specify the display order for information on the Self-Bill Workbench. The four sort orders are:

- Item Number and Authorization Number
- Authorization Number and Item Number
- Shipper Number and Item Number
- Customer PO and Item Number

Using Self-Bill Auto Create

Follow these steps to create a new self-bill or to add lines to an existing self-bill using Self-Bill Auto Create (27.6.12.4).

1. Enter a previously created self-bill number, or leave Self-Bill blank when creating a new self-bill.
2. Enter any identifying information in the auto-create selection screen. Enter as much or as little information as you have from the customer’s remittance advice you are re-creating. Significant information you should enter is:
   - Shipper number
   - Sold-to
   - Ship-to
   - Item number
   - Date of shipment
   - Authorization number

Note The more selection criteria you provide, the narrower and more accurate your selection becomes.

3. Specify whether to include shipment details, trailer charges, taxes, or order discounts on the selection display screen.
4. Select a sort order for the resulting workbench report.

5 Press Go.

The system analyzes your customer's shipment data and displays a list of possible shipper numbers that might be associated with the customer's remittance advice document. This information is displayed in the workbench according to the sort order you previously indicated.

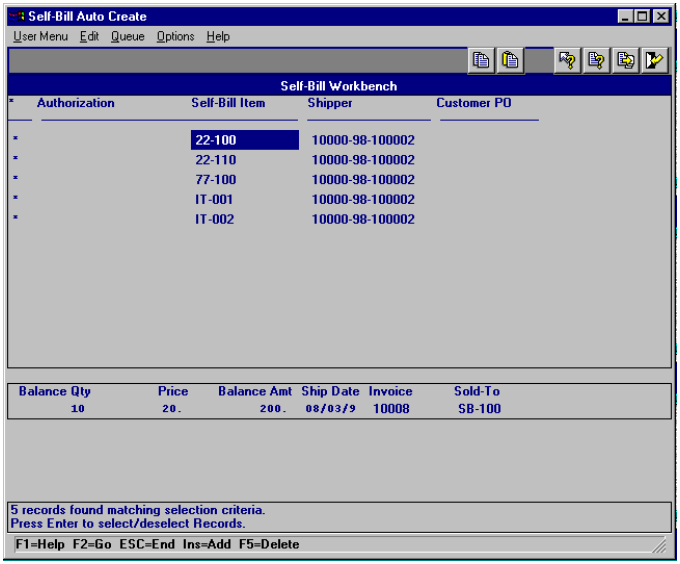


Fig. 7.2 Self-Bill Workbench

6 Use the workbench to refine your selection by deselecting any lines that should not be referenced by this self-bill. Item number is the customer's item number, which was originally used on the order.

- Use the Up/Down arrows to navigate from entry to entry.
- Use Enter to deselect any entry that does not belong on the self-bill. An asterisk (*) indicates selection.

7 Press Go to continue with your selection.

8 Print and review the selection. You are prompted to continue.

- If you continue, either all selections are added to an existing self-bill or a new self-bill is created and selections are added to it.
- If you do not continue, selections are not added to the self-bill.

See “Maintaining Self-Bills” on page 90.

9 Self-Bill Maintenance (27.6.12.1) is automatically invoked to let you edit these selections to correctly reflect the information on the remittance advice. In the Self-Bill Maintenance header, you cannot edit the Self-Bill, Bill-To, or Currency fields, which default from Self-Bill Auto Create.

Importing Self-Bills

For more details on EDI processing, see *User Guide Volume 7: Release Management.*

Use Document Import (35.13) to import EDI self-bills into the system. This function loads self-bill information from a flat file and processes it to create a self-bill document in your MFG/PRO eB database.

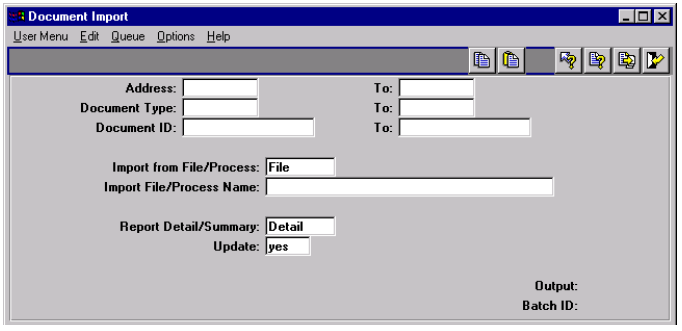
During import, the system tries to associate incoming electronic self-bill data with invoice data. Once loaded into your database, the information can be manually modified using Self-Bill Maintenance.

See “Matching Adjustment Self-Bill Lines” on page 96.

EDI self-bill lines should always be associated with an MFG/PRO eB invoice number. However, the system may not be able to make this association for some self-bill lines due to incorrect or incomplete information in the EDI file. These problems are reported in the EDI load report produced during import.

Lines that the import process cannot associate are tagged as adjustment entry lines. You can manually associate adjustment self-bill lines to the correct invoice in Self-Bill Maintenance.

Fig. 7.3
Document Import (35.13)



Formatting EDI Documents for Import

To import self-bill documents using EDI, you must format the self-bill files correctly. Table 7.1 lists the format for the first record in a document. This format applies to all document types.

Table 7.1 First Record for All Document Types

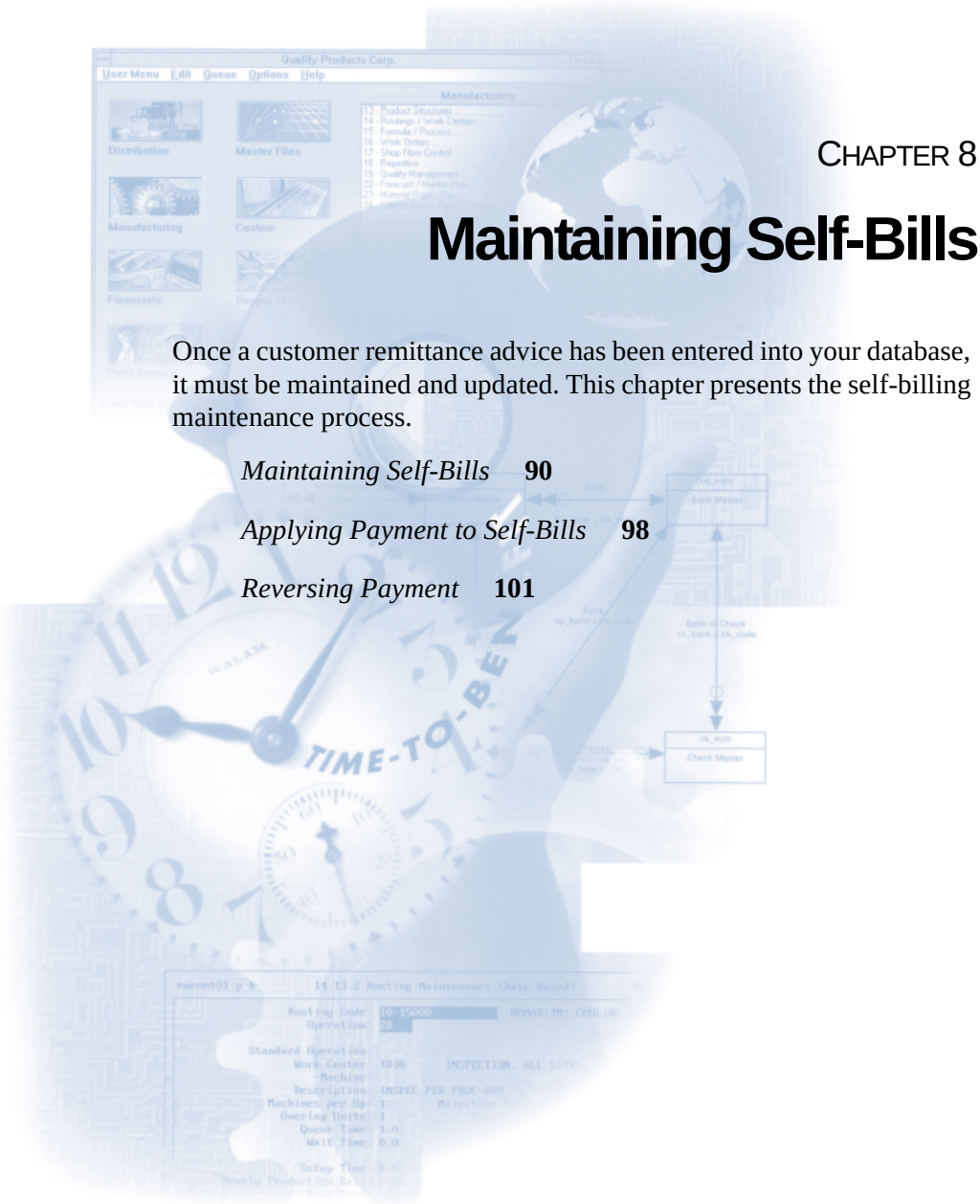
	POS	Width	Value/DB Field/Local Var
New Document Indicator	1	2	//
Software Label	3	7	MFG/PRO
Document Type	10	3	ansi_document_types array
Trading Partner Interface ID	13	24	ad_edi_tpid
EDI Standard Version	37	30	ad_edi_std

Table 7.2 lists the record format for each section of a self-bill document.

Table 7.2 Self-Bill Flat File Format

Description	POS	Width	Value/DB Field/Local Var
"01" Self-Bill Header Information			
Record Type Indicator	1	2	01
Trading Partner Bill-to	4	8	sbi_bill
Self-bill Number	13	20	sbi_nbr
Transmission Number	34	20	sbi_xmission
Response Date	55	6	sbi_resp_date
Currency	62	3	sbi_curr
Control Amount	66	10	sbi_ctrl_amt
"12" Self-bill Detail Information			
Record Type Indicator	1	2	12
Type	4	1	sbid_type
Sold-to	6	8	sbid_cust
Self-bill Item	15	30	sbd_part
Authorization Number	46	24	sbid_authorization
Shipper Id	71	8	sbid_ship_id
Customer PO Number	80	22	sbid_po
Quantity	103	10	sbid_qty
Price	114	10	sbid_price
Amount	125	10	sbid_amt
Unit Of Measure	136	2	sbid_um

Description	POS	Width	Value/DB Field/Local Var
Tax Amount	139	10	sbid_tax_amt
Tax Percent	150	10	sbid_tax_pct



CHAPTER 8

Maintaining Self-Bills

Once a customer remittance advice has been entered into your database, it must be maintained and updated. This chapter presents the self-billing maintenance process.

Maintaining Self-Bills **90**

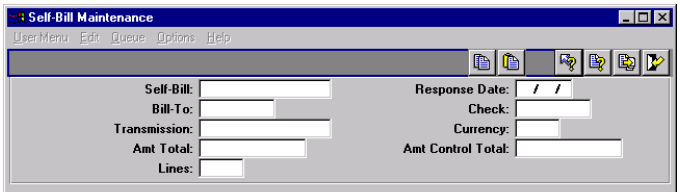
Applying Payment to Self-Bills **98**

Reversing Payment **101**

Maintaining Self-Bills

Use Self-Bill Maintenance (27.6.12.1) to manually enter new self-bills and delete and maintain existing self-bills. Use this function to reconcile any adjustment lines that result from processing a self-bill using Self-Bill Auto Create (27.6.12.4) or Document Import (35.13).

Fig. 8.1
Self-Bill Maintenance (27.6.12.1), Header



Entering Header Values

Self-Bill. Enter the self-bill to which the selections are to be added. When left blank the system generates a self-bill number.

By entering an existing self-bill number, you specify a self-bill to which selected details are added. Specifying any other number in this field creates a self-bill for that number and adds the selection to it.

Bill-To. Enter the bill-to for which the selection is to be made. The bill-to is required. You cannot change the bill-to once you have created a self-bill in the system.

All shipments referenced on the shipper must be paid by the same Bill-To and with the same currency.

Transmission. Enter the transmission that identifies the batch of EDI self-bills received from this customer.

This field is used to group a number of EDI self-bills.

Amt Total. This field displays a running total amount of all shipments and other entries referenced on this self-bill. This total is maintained by the system and cannot be changed.

Lines. This field displays the running total number of lines on this self-bill. This system-maintained field is for reference only and cannot be edited.

Response Date. Enter the date by which you need to communicate any discrepancies found within the self-bill back to your customer.

This is a previously agreed-upon date between you and your customers. It defaults to the current date.

Check. Enter the check number used for the self-bill.

If a payment has been applied to this self-bill with Self-Bill Payment Application (27.6.12.7), then the check used for that transaction defaults here.

Currency. Enter the currency for this self-bill document. All records included on this self-bill must be invoiced using this currency. For new self-bills, currency defaults from the bill-to address of the customer.

Amt Control Total. Enter the control total of all shipments and other entries referenced on the self-bill. This control total is usually the total on the hard-copy self-bill.

Tip
Total is expressed in terms of the currency specified for this customer.

This total is used to reconcile the total amount of the self-bill. In order to make a payment for a self-bill, the Amt Control Total must match the Amt Total of the self-bill.

If any entries on the self-bill are incorrectly entered, the amount will not match the self-bill Amount Total. You are warned about the discrepancy when exiting this maintenance function. The two totals must match to apply payment to the self-bill.

Creating a New Self-Bill

Normally, you would not use Self-Bill Maintenance (27.6.12.1) to create a new self-bill. Use Self-Bill Auto Create or Document Import to create a new self-bill. However, under some circumstances you may have to use Self-Bill Maintenance to create a new self-bill.

Follow these steps to create a new self-bill using Self-Bill Maintenance. In the program header do the following:

1. Enter a new self-bill number.

   Leave blank for the system to create a new number from the information in the control file.

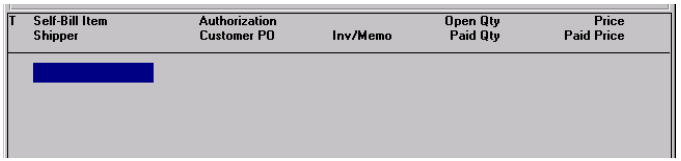
2. Enter or select a customer bill-to address.

On a new self-bill, information defaults for Response Date and Currency.

3 Edit Transmission, Response Date, and Amt Control Total as needed. Press Go.

A self-bill line selection frame appears.

Fig. 8.2
Self-Bill Maintenance, Line Selection Frame

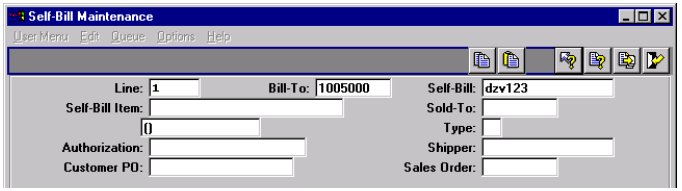


Follow these steps to create a new self-bill line:

1 On the blank self-bill line, press Insert.

The self-bill line edit frame appears. Line indicates the new self-bill line.

Fig. 8.3
Self-Bill Maintenance, Line Edit Frame



2 You must enter the Self-Bill Item or Sold-To.

3 Enter any other identifying information available. Press Go.

The system matches shipment invoice records based the information in these fields.

For Type:

- Leave blank if entering a shipment line.
- Enter A for an adjustment line. Use this code when creating an adjustment line to reference a write-off memo.
- Enter C for trailer charges line.
- Enter D for discount line.
- Enter T for tax line.

4 When the system finds multiple matches for the information you enter, a shipment selection frame appears. Use this frame to select the correct line.

- Use the arrow keys to scroll from line to line.
- Press Enter to select the correct line.

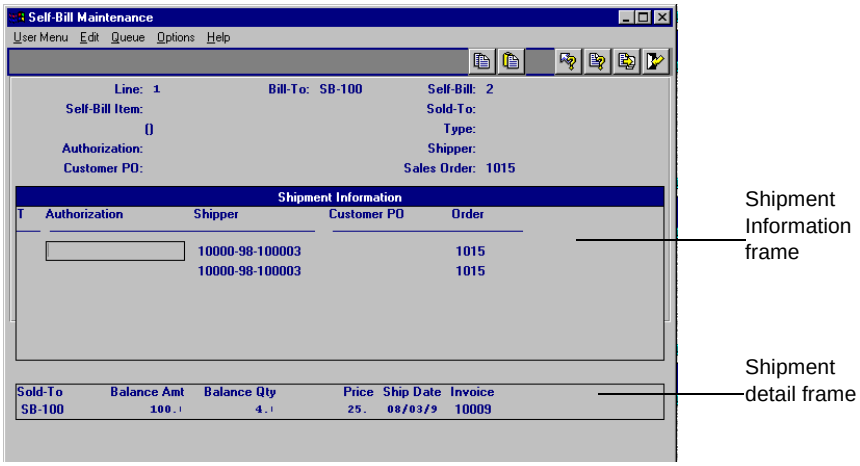


Fig. 8.4 Self-Bill Maintenance, Shipment Information Frame

If only one match is found, or after you select the correct shipment line from the line match frame, the financial detail frame appears.

5 Enter or edit financial details and remarks for the line. Press Go.

6 Matching shipment information is displayed in the last frame.

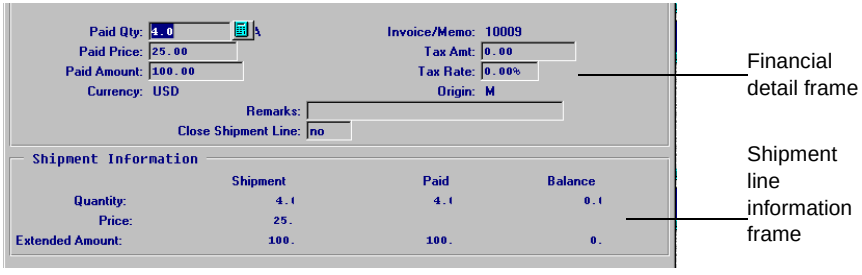


Fig. 8.5 Self-Bill Maintenance, Shipment Detail Frames

Working with Self-Bill Lines

The self-bill lines that are created in Self-Bill Auto Create (27.6.12.4) or Document Import (35.13) must be modified to correctly reflect what has been paid on each self-bill. The lines on the newly created self-bill include the entire unpaid quantity and expected price.

After using Document Import to process EDI self-bills, use Self-Bill Maintenance to reconcile any adjustment lines. After using Self-Bill Auto Create, you are automatically brought to the Self-Bill Maintenance header.

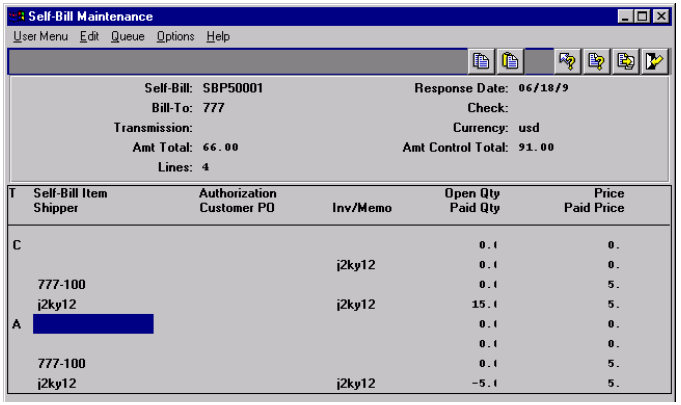
See “Matching Adjustment Self-Bill Lines” on page 96.

Once the header information has been entered into the Self-Bill Maintenance header or you have finished the initial auto-create procedure, the line selection frame appears. Use this frame to edit, delete, or add new self-bill lines. Use this frame to link adjustment self-bill lines to shipments, in effect changing self-bill adjustment lines to shipment self-bill lines.

To modify self-bill line details:

1 Select the self-bill line to modify.

Fig. 8.6
Self-Bill Maintenance, Line Selection Frame



Use the arrow keys to navigate up and down the self-bill lines. Press Enter to select the line to be modified.

The self-bill line edit frame appears.

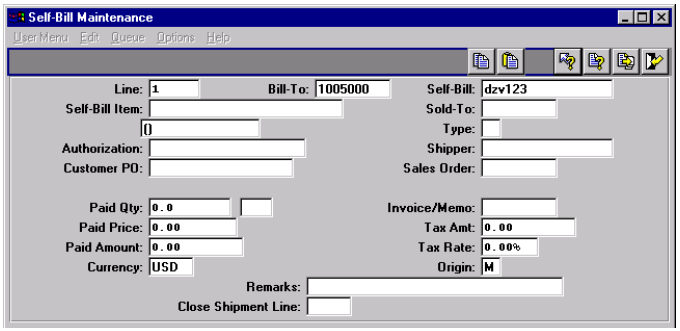


Fig. 8.7
Self-Bill Maintenance, Line Edit Frame

2 Add or modify the fields according to the information from the EDI or the customer remittance advice document.

Note The field values entered in the Line Edit frame are the same values displayed in the Line Selection frame. When entering a new line, you must enter values. When editing an existing line, the values displayed were defined when the line was originally created.

Self-Bill Item. This is the item referenced on the customer remitted correspondence—either the customer item number specified on the scheduled or discrete sales order line or your internal item number.

If specified on the sales order line, the customer item number takes precedence over your item number.

Type. This is the code identifying this line type. There are five types:

Tip
On the Line Selection frame the Type field label is T.

- Blank indicates shipment lines.
- A indicates adjustment lines.
- T indicates tax.
- C indicates trailer charges.
- D indicates discount.

Authorization. This is the authorization number sent by the customer to identify a shipment.

Release Authorization Number (RAN), Dealer Order Number (DON), and kanban numbers are some examples of authorization numbers.

During the addition of detail lines, you can enter an authorization number to select shipments from the shipment-invoice cross-reference table.

Inv/Memo. This is the memo or invoice associated with this line.

When this self-bill line is an adjustment line and Inv/Memo is left blank, an unapplied cash entry is created for the amount referenced.

Open Qty. The line selection frame displays the quantity not yet paid on any self-bill. This field applies only to shipment self-bill lines and does not display for adjustment self-bill lines. Open Qty is expressed in terms of order unit of measure.

Paid Qty. Enter the total number of items that have been paid for.

Price. This is your listed price for the item.

Paid Price. Enter the price paid by the customer for each item.

Matching Adjustment Self-Bill Lines

Follow these steps to match adjustment self-bill lines with corresponding shipment information:

1. Go through the self-bill line modification steps outlined on page 94.
2. Select the adjustment self-bill line to match.

   The self-bill line detail edit frame appears with all the adjustment line details.
3. Press Insert.

   The shipment information frame appears.

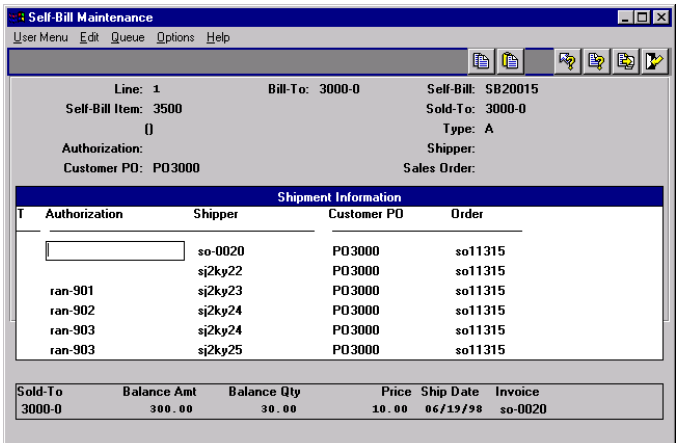


Fig. 8.8
Self-Bill Maintenance, Shipment Information Frame

4 Use the arrow keys to navigate to the corresponding shipment.

5 Press Enter to match the shipment with the adjustment line.

Deleting Self-Bills

You can use Self-Bill Maintenance (27.6.12.1) to delete an entire self-bill or a specific self-bill line. When a self-bill or a self-bill line is deleted, any shipment-invoice cross-reference records associated with it are released and the invoice lines can be selected on another self-bill.

See “Shipment-Invoice Crossref Report” on page 107.

Note A self-bill or self-bill line cannot be deleted if payment has been applied to it.

To delete a self-bill line:

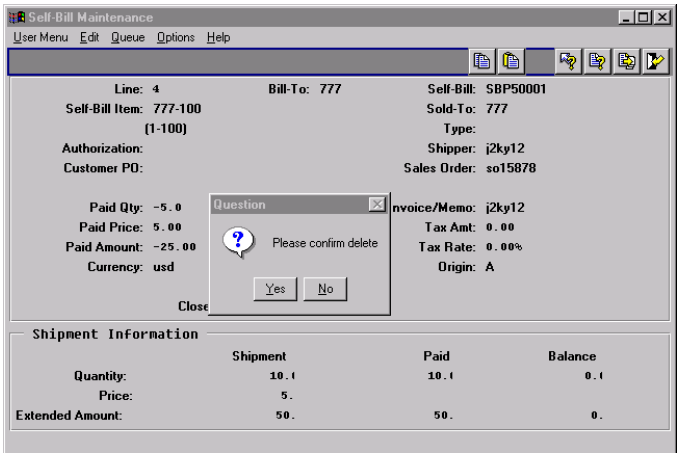
1 Select the self-bill that has the line you want to delete.

2 In the line selection frame, select the line to delete.

3 Press Delete.

4 The self-bill line detail frame and a delete confirmation prompt appear.

Fig. 8.9
Self-Bill Line Detail Frame and Delete Line Confirmation Prompt



5 Choose Yes to delete the selected line.

To delete an entire self-bill:

1 In the maintenance header, select the self-bill to delete. Press Go.

2 When the second set of fields are highlighted, press Delete.

3 You are prompted to continue with the deletion. Choose Yes to delete the selected self-bill.

Applying Payment to Self-Bills

Once a self-bill has been created and payment has been received, payment must be credited to the appropriate MFG/PRO eB invoices. Use Self-Bill Payment Application (27.6.12.7) to apply payment to all of the invoices and memos that are referenced by a self-bill document.

Important You cannot apply payment to a self-bill if the Amt Total does not equal the Amt Control Total.

When you use this program to apply payment, the payment is applied to the invoice or memo specified on the self-bill detail line.

When a payment is applied, four different situations are possible:

- Payment is credited to the invoice or memo.

- When no invoice or memo is specified—Inv/Memo is blank—the amount paid is applied to unapplied cash with a reference to the self-bill and the self-bill line.
- When payment is greater than the amount open on the invoice, the overpayment amount is applied to unapplied cash with a reference to the invoice.
- When payment is greater than the invoice line, the overpayment is applied to unapplied cash with a reference to the self-bill and self-bill line.

Reconciling Self-Bills

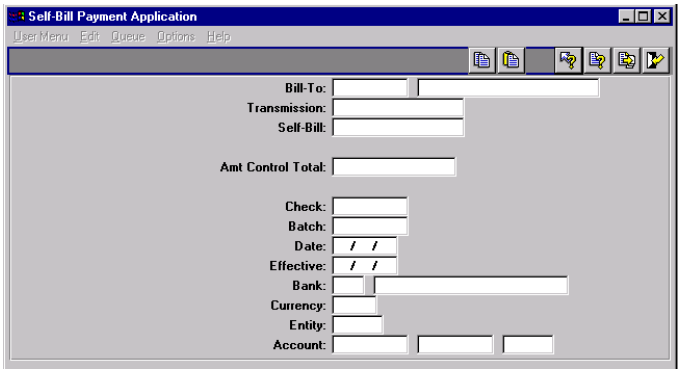
Self-Bill Payment Application (27.6.12.7) lets you reconcile discrepancies between the self-bill document and MFG/PRO eB invoices. You can reconcile discrepant lines in the following ways:

- Manually match discrepant lines to the correct invoice shipment.
- Correct any open quantities or amounts on the affected invoice.
- Correct any price differences between the self-bill and the invoice information.
- Match any adjustment line with the correct invoice shipment information.
- Write off a discrepant amount by creating a debit or credit memo.

When you write off a discrepancy:

1. Create a debt/credit memo in DR/CR Memo Maintenance (27.1) for the write-off amount.
2. Create an adjustment line for the amount.
3. Enter the debt/credit memo in Inv/Memo on the detail line for the adjustment.

Fig. 8.10
Self-Bill Payment Application (27.6.12.7)



Applying Payments

Before you can execute Self-Bill Payment Application successfully, you must ensure that the Amt Total and the Amt Control Total for that self-bill are the same.

To apply self-bill payments to all associated invoices:

1. Enter the customer bill-to address.
2. Enter the transmission or self-bill number.

   The Amt Control Total and other customer financial information display.
3. Enter the associated check or batch number and correct dates.
4. You can also specify the bank to use. The bank must use the same currency as the self-bill.
5. You are prompted to continue with the payment application. Choose Yes and press Go to continue.

   Payment is applied to the associated invoices, and the associated self-bills are updated with the correct check number.

Note Choosing No returns you to the program header without updating any information.

Reversing Payment

If you need to reverse a payment, use Self-Bill Payment Undo (27.6.12.8). This program reverses payments made in Self-Bill Payment Application (27.6.12.7).

Payments cannot be reversed if:

- Unapplied cash related to the self-bill has been used to pay another invoice or memo.
- The payment period is not a valid GL period.
- The payment period is in a closed GL period.
- The payment period is in a closed year.

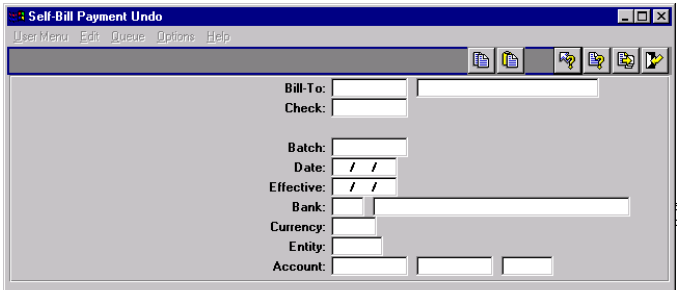


Fig. 8.11
Self-Bill Payment Undo (27.6.12.8)

To undo a payment:

1. Enter the bill-to address and check number.
2. Press Go. Financial information for that check is displayed.
3. You are prompted to confirm the update. Choose Yes to reverse the payment.

The check number in Check is completely removed from all system self-bills referencing it. This is equivalent to deleting a payment record in Payment Maintenance (27.6.4).

CHAPTER 9

Self-Billing Reports and Inquiries

This chapter presents the remaining reports, browses, and functions in the Self-Billing module.

Self-Bill Report **104**

Invoice/Memo AR Balance Report **104**

Self-Bill Discrepancy Report **105**

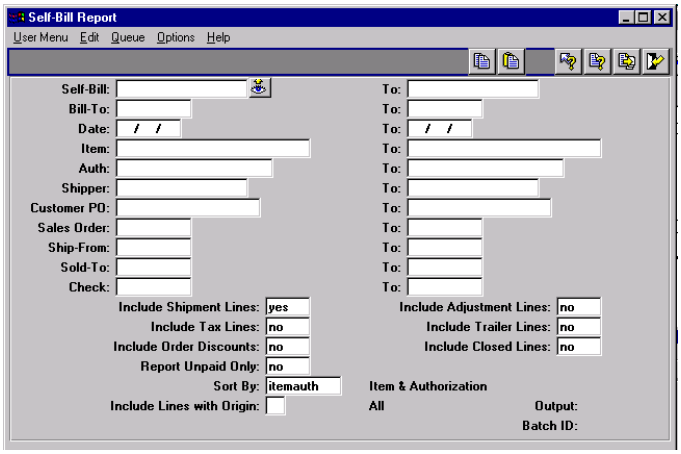
Self-Bill Delete/Archive **106**

Shipment-Invoice Crossref Report **107**

Self-Bill Report

Use Self-Bill Report (27.6.12.13) to review self-bill detail information. There are various ways the report can be produced to view the self-bill details. Use the selection criteria and sort options to sort and narrow down the information reported.

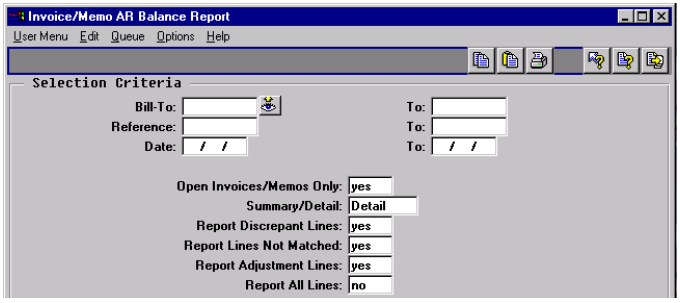
Fig. 9.1
Self-Bill Report (27.6.12.13)



Invoice/Memo AR Balance Report

Use Invoice/Memo AR Balance Report (27.6.12.11) to determine what portion of invoices referenced by the self-bill have been paid. Internally, the system maintains a map between every self-bill line and an invoice. Applying payment to a self-bill means applying payment to the associated invoices.

Fig. 9.2
Invoice/Memo AR Balance Report (27.6.12.11)



Use this report in summary mode to determine if an invoice related to a self-bill has any outstanding amounts. The detail mode lets you drill down to find which shipments have been fully paid and which have not.

Self-Bill Discrepancy Report

Use Self-Bill Discrepancy Report (27.6.12.10) to view discrepancy details associated with a self-bill document. Use the details provided by this report to reconcile discrepancies in self-bills. This report shows the three types of discrepancies that prevent you from applying payment to a self-bill.

- Discrepant Lines: Lines matched to invoice shipment data where the invoice shipment data has an open quantity, an open amount, or a price difference.
- Adjustment Lines: Lines marked with a type A. These lines could not be matched when the self-bill was originally created.
- Lines Not Matched: Lines that can be matched to invoice shipment data, but for some reason were not. These are marked as type blank.

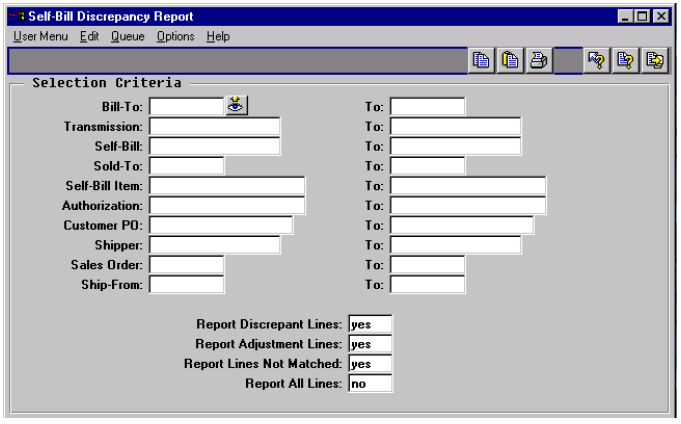


Fig. 9.3 Self-Bill Discrepancy Report (27.6.12.10)

For each self-bill, the discrepancy total is displayed first, followed by the detailed sub-totals by reason for each account. These amount details can be used to create discrepancy memos to apply credit to the proper accounts. The discrepancy memo must be created and registered with the self-bill in order to apply payment to the self-bill.

See “Applying Payments” on page 100.

Discrepancies can occur for various reasons, such as the following:

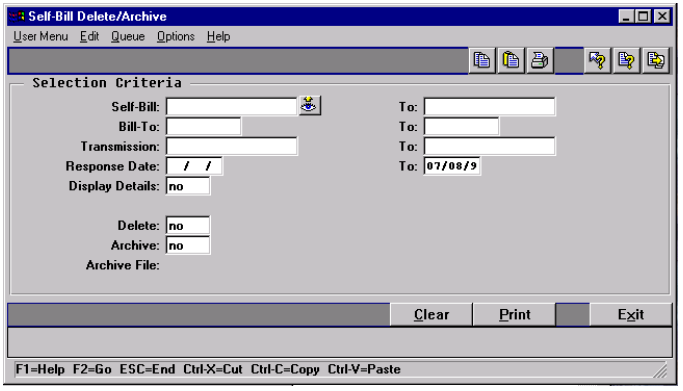
- Differences between quantities shipped and received
- Unit price differences
- Special (trailer) charges in your invoices not included in the customer self-bill
- Special charges included in the customer self-bills but not included in your invoices

Use this report as reference for reporting any discrepancies to the customer.

Self-Bill Delete/Archive

Self-Bill Delete/Archive (27.6.12.23) is very similar to other delete/archive functions. It can copy (archive) or remove (delete/archive) closed records from your database. Archived self-bills can be returned to an MFG/PRO eB database using Archive File Reload (36.16.5).

Fig. 9.4
Self-Bill Delete/Archive (27.6.12.23)



Delete. Indicates whether to delete the specified information from the system. Select Yes to remove the data. No will leave specified information in the system.

Archive. Indicates whether to archive the specified information. Select Yes to save the specified information on tape or other storage media. If you select No, any information you delete during this process cannot be recovered.

Shipment-Invoice Crossref Report

The shipment-invoice cross-reference structure holds the map between shipment-related details such as shipper number or authorization number and associated MFG/PRO eB invoice numbers.

Shipment-Invoice Crossref Report (27.6.12.15) facilitates inquiries into the self-bill cross-reference structures in the system.

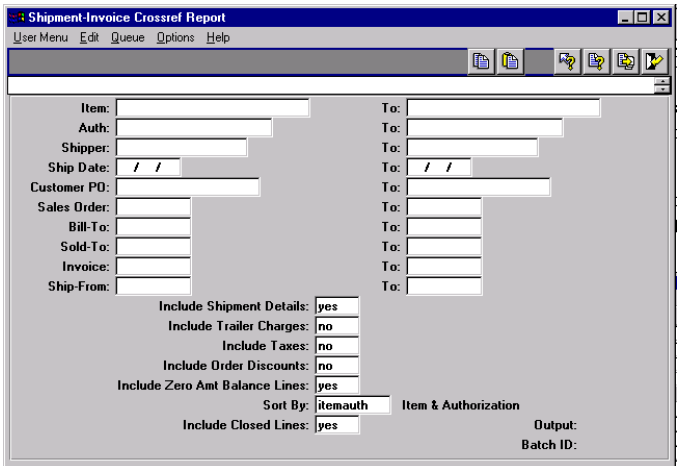
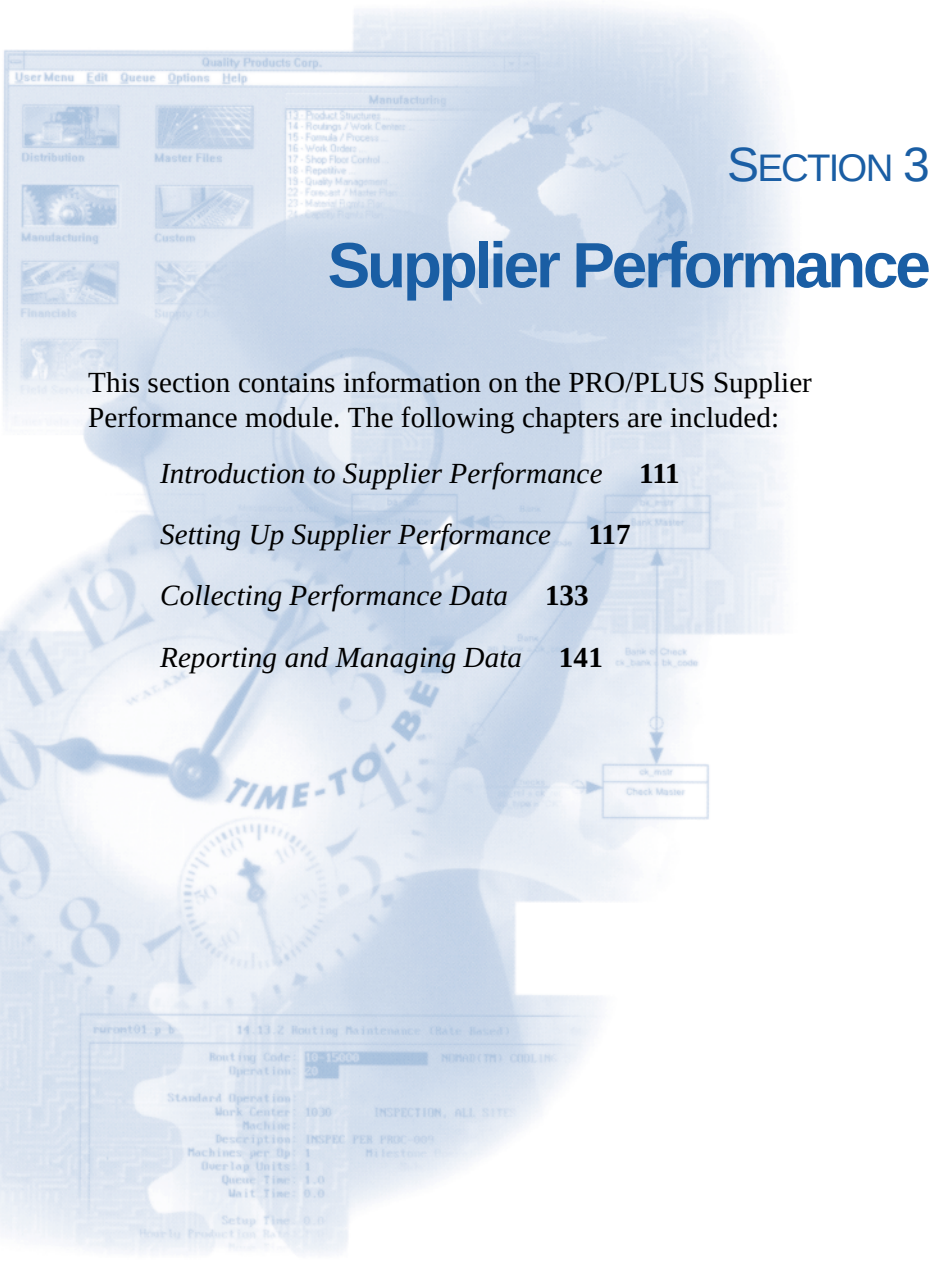


Fig. 9.5
Shipment-Invoice Crossref Report (27.6.12.15)



SECTION 3

Supplier Performance

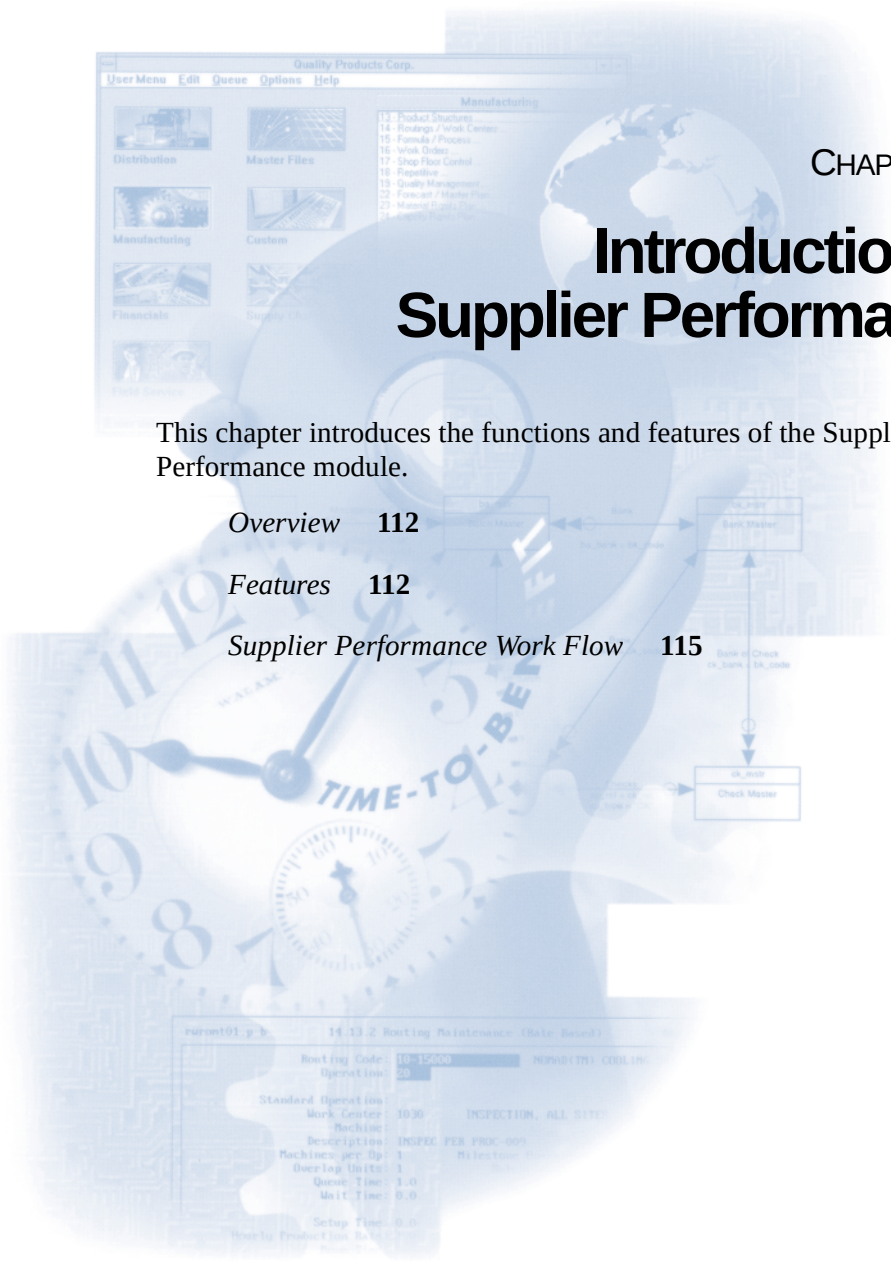
This section contains information on the PRO/PLUS Supplier Performance module. The following chapters are included:

Introduction to Supplier Performance **111**

Setting Up Supplier Performance **117**

Collecting Performance Data **133**

Reporting and Managing Data **141**



CHAPTER 10

Introduction to Supplier Performance

This chapter introduces the functions and features of the Supplier Performance module.

Overview **112**

Features **112**

Supplier Performance Work Flow **115**

Overview

The Supplier Performance module enables manufacturers to monitor the performance of their internal and external suppliers. Depending on your manufacturing environment, you can customize the way your system collects performance data as well as how you report performance metrics. You can create your own data collection points or use the ones predefined in the system.

This module provides flexible automatic and manual data collection. You can optionally record any nonroutine events or modify or add to any existing event with the maintenance functions. Finally, you can tailor performance reports—both internal and external—to meet your needs.

Features

Flexible Registration

With the Supplier Performance module, you can enable or disable data collection for any registration. A *registration* in Supplier Performance is the record used to specify the supplier, site, item, corporate commodity code, date, or combination of these for which performance data is collected.

You can explicitly define when, where, and for what registration you want data to be collected. You can further define the data you want to collect by specifying a date or date range when the data collection should occur or be disabled.

Flexible Event/Category Definitions

This module gives you broad control of the performance activities you want to count, where you want to count them, and for which registration you want to collect data. You can use system events as measurements, or you can define the specific nonsystem events to be counted. Supplier Performance automatically collects data during the following transactions:

- Schedule Update from MRP (5.5.3.1)
- Purchase Order Receipts (5.13.1)

- PO Shipper Receipt (5.13.20)
- RTS Receipts (11.7.3.13)
- Distributed Order Receipt (12.15.20)
- Document Import (35.13)

Using category and event definitions, tell the system what data you want reported, and how you want that data to be reported. Although the system has predefined categories and events, you must create corresponding category and event definitions. Your category and event definitions tell the system how much each system category and event is worth, whether to report data for that event or category, and how to report that data.

Use Performance Category Maintenance (5.15.1) and Performance Event Maintenance (5.15.5) to create category and event definitions for each system category and event. Use System Category/Event Maint (5.15.22) to link system categories and events with the category and event definitions you create.

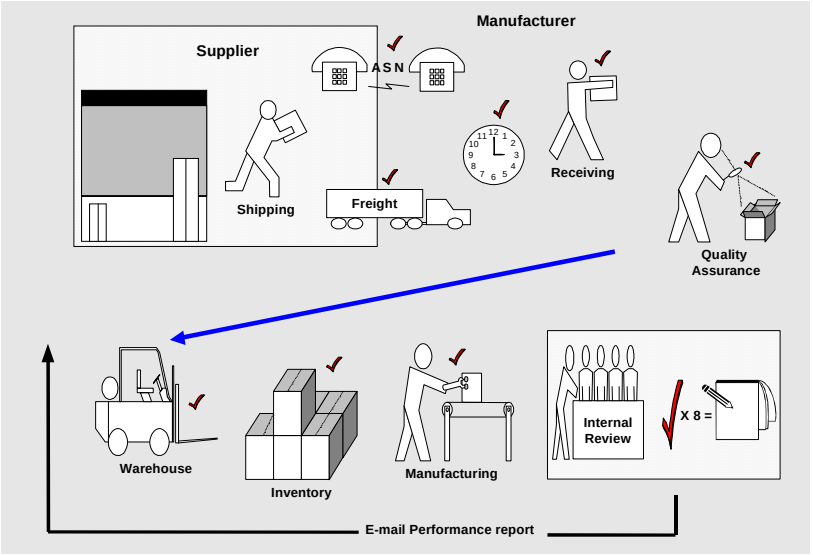
When you create category and event definitions, you can specify if you want optional data collection to occur during the following system transactions:

- Inventory Transfers
  - Transfer–Single Item (3.4.1)
  - Transfer–Multi Item (3.4.2)
  - Transfer with Lot/Serial Change (3.4.3)
  - Batchload Transfer with Lot/Serial Change (3.4.4)
- Purchase Order Returns (5.13.7)
- RTS Shipments (11.7.3.16)

Figure 10.1 shows some events you can track. You can create nonsystem event definitions that you can manually enter into the system. For example, you can define events to track supplier performance by:

- Freight type or cost
- Product quality
- Service quality
- On-time scheduled-order delivery

Fig. 10.1
Sample Supplier Performance Data Collection Points



Multiple Rating Systems

See “Using the Computational Methods” on page 125 for more details.

Supplier Performance offers three performance calculation and rating methods.

Discrete method. Counts points associated with each performance event. For example, 100 points earned for 100 on-time deliveries.

Proportional method. Assigns a percentage rating based on the actual number of satisfactory events completed divided by the total possible number of events.

Parts-per method. Similar to the proportional method, but uses a large factoring number to assign a rating.

You are not limited to using only one method in your system. Apply any method to each of the registrations you are tracking.

Supplier Performance Work Flow

Figure 10.2 shows a typical Supplier Performance work flow.

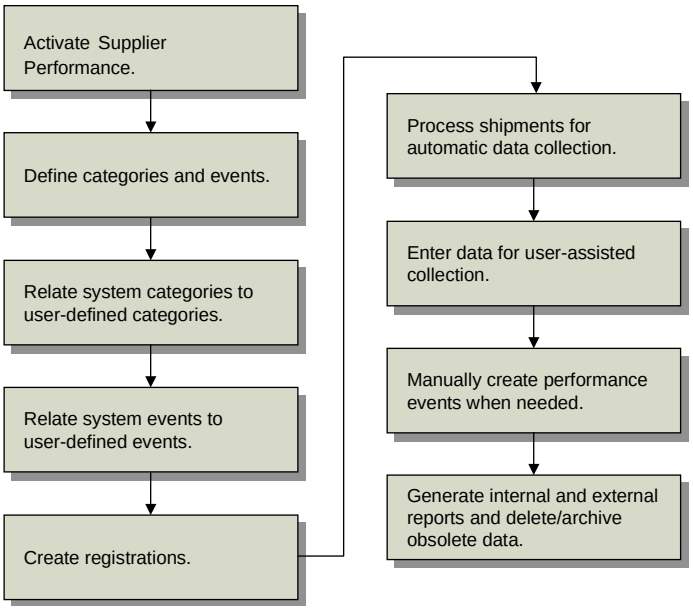


Fig. 10.2 Supplier Performance Work Flow

Supplier Performance Programs

The Supplier Performance module uses the following programs.

Table 10.1 Supplier Performance Programs

Menu Number	Description	Program Name
5.15.1	Performance Category Maintenance	povecmt.p
5.15.2	Performance Category Inquiry	poveciq.p
5.15.3	Supplier/Category Maintenance	povescmt.p
5.15.4	Supplier/Category Inquiry	povesciq.p
5.15.5	Performance Event Maintenance	poveemt.p
5.15.6	Performance Event Inquiry	poveeiq.p
5.15.7	Performance Weight Factor Maint	povewmt.p
5.15.8	Performance Weight Factor Inquiry	povewiq.p
5.15.10	Registration Maintenance	povesimt.p
5.15.11	Registration Report	povesirp.p

Menu Number	Description	Program Name
5.15.13	Performance Data Maintenance	povepmt.p
5.15.14	Performance Data Report	povedrp.p
5.15.15	Performance Report Card	povedrp2.p
5.15.17	Missed Shipment Event Generator	povemsrq.p
5.15.19	Summary Data Extract	povesmex.p
5.15.20	Summary Data Report	povesmrp.p
5.15.22	System Category/Event Maint	poveecmt.p
5.15.23	Delete/Archive Menu ...	
5.15.23.1	Performance Data Delete/Archive	poveup.p
5.15.23.2	Summary Data Delete/Archive	povesup.p
5.15.23.3	Supplier Cross-Reference Maint	povexmt.p
5.15.23.4	Supplier Cross-Reference Report	povexrp.p
5.15.24	Supplier Performance Ctrl File	povepm.p

Supplier Performance Program Types

The Supplier Performance module consists of four program types:

- Setup programs
- Registration programs
- Data collection and maintenance programs
- Reports and inquiries

Each step of the supplier performance process is detailed in the following chapters.

CHAPTER 11

Setting Up Supplier Performance

This chapter details the steps you must take when setting up your Supplier Performance system. This chapter discusses the following topics:

Planning a Supplier Performance System **118**

Configuring Control File Settings **118**

Defining Performance Categories **124**

Defining Performance Events **127**

Creating Category and Event Relationships **128**

Defining Weight Factors **129**

Creating Registrations **130**

Collecting Data Without Reporting **131**

Planning a Supplier Performance System

Before you begin the supplier performance setup, you should first plan your system. Basic information you should decide and plan before setting up a supplier performance system includes:

- The categories and events to monitor
- The impact or value of events
- The suppliers, items, sites, and/or commodity codes to monitor
- The impact or value of events for specific registrations

  For example, does registration A in another country receive the same late penalties as registration B, located across town?
- The computational system to use for each category
- Which suppliers should receive E-mail performance reports

Configuring Control File Settings

To set up the supplier performance system, you must first activate it and define default information in the Supplier Performance Ctrl File (5.15.24).

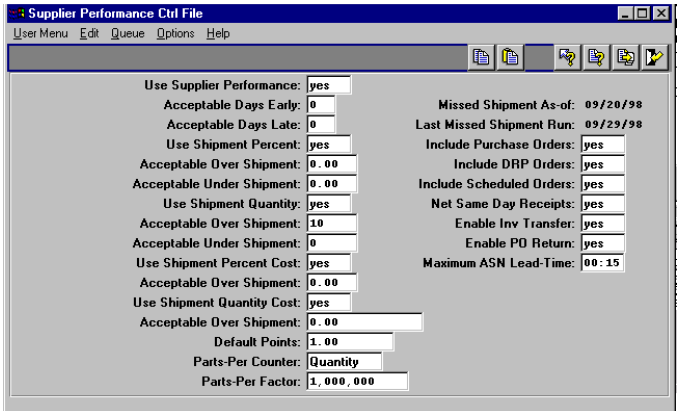


Fig. 11.1 Supplier Performance Ctrl File (5.15.24)

Use the following field descriptions to guide you through the control file setup.

Use Supplier Performance. Enter Yes or No (the default) to indicate whether Supplier Performance is enabled.

When disabled, information related to supplier performance is not captured by the system. This flag overrides all other Supplier Performance flags.

Acceptable Days Early. Enter the acceptable number of days a shipment can be early without generating an early shipment event.

This value sets the default for the same field in Registration Maintenance (5.15.10).

Acceptable Days Late. Enter the acceptable number of days a shipment can be late without generating a late shipment event.

This value sets the default for the same field in Registration Maintenance.

Use Shipment Percent. Enter Yes or No to specify whether the system should evaluate the incoming receipts against a user-specified value.

Yes: The system evaluates whether incoming receipts are over or under a user-specified percentage value. The evaluation is based on a comparison of quantity received to quantity expected.

No: Evaluation does not occur. The values in the corresponding Acceptable Over Shipment and Acceptable Under Shipment fields are not used.

This value sets the default for the same field in Registration Maintenance.

Acceptable Over Shipment. Enter the maximum percentage by which an incoming shipment can be over the expected quantity without generating an overshipment event.

Tip
This field is used when Use Shipment Percent is Yes.

This value sets the default for the same field in Registration Maintenance.

Acceptable Under Shipment. Enter the maximum percentage by which an incoming shipment can be under the expected quantity without generating an undershipment event.

Tip
This field is used when Use Shipment Percent is Yes.

This value sets the default for the same field in Registration Maintenance.

Use Shipment Quantity. Enter Yes or No to specify whether to use the shipment quantity to calculate supplier performance.

Yes: The system evaluates whether incoming receipts are over or under the user-specified quantity.

No: Evaluation does not occur. The values in the corresponding Acceptable Over Shipment and Acceptable Under Shipment fields are not used.

This value sets the default for the same field in Registration Maintenance.

Tip
This field is used when Use Shipment Quantity is Yes.

Acceptable Over Shipment. Enter the maximum quantity by which an incoming shipment can be over the expected quantity without generating an overshipment event.

This value sets the default for the same field in Registration Maintenance.

Tip
This field is used when Use Shipment Quantity is Yes.

Acceptable Under Shipment. Enter the maximum quantity by which an incoming shipment can be under the expected quantity without generating an undershipment event.

This value sets the default for the same field in Registration Maintenance.

Use Shipment Percent Cost. Enter Yes or No to specify whether the system should evaluate the incoming receipts based on the percentage of item cost.

No: Evaluation does not occur. The value in the corresponding Acceptable Over Shipment field is not used.

Yes: The system evaluates whether incoming receipts are over or under the specified percentage value. The evaluation is based on a comparison of quantity received to quantity expected.

Example An item might cost $1,000 each, and you receive 12 instead of 10. The overshipment based on quantity might not generate a supplier performance event, but if the percent of cost is 10%, then an overshipment is recorded.

This value sets the default for the same field in Registration Maintenance.

Tip
This field is used When Use Shipment Percent Cost is Yes.

Acceptable Over Shipment. Enter the maximum cost by which an incoming shipment can be over the expected cost based on a percentage.

This value sets the default for the same field in Registration Maintenance.

Use Shipment Quantity Cost. Enter Yes or No to specify whether to use the total value of the shipment quantity to calculate supplier performance.

No: Evaluation does not occur. The value in the corresponding Acceptable Over Shipment field is not used.

Yes: The system evaluates whether incoming receipts are over a specified cost based on quantity. The evaluation is based on a comparison of the cost of the quantity received and the cost of the quantity expected.

This value sets the default for the same field in Registration Maintenance.

Acceptable Over Shipment. Enter the maximum cost by which an incoming shipment can be over the expected cost based on quantity.

Tip
This field is used when Use Shipment Quantity Cost is Yes.

This value sets the default for the same field in Registration Maintenance.

Default Points. Enter the default point value to use when creating events in Performance Event Maintenance (5.15.5).

This value sets the default for the Points field in Performance Event Maintenance.

Parts-Per Counter. Enter the parts-per calculation method:

Quantity: The parts-per calculation is based on the total quantity received.

Events: The calculation is based on the number of events a receipt has generated.

This value sets the default for the same field in Performance Category Maintenance (5.15.1).

Parts-Per Factor. Enter the factor used to calculate supplier performance rank when the parts-per rating method is used. The default is 1,000,000.

This value sets the default for the same field in Performance Category Maintenance.

Missed Shipment As-of. This field displays the date entered for the same field in the Missed Shipment Event Generator (5.15.17) when that program was last executed. This is the beginning date the system uses when searching for missed shipments. This field is for reference only and is not editable.

Last Missed Shipment Run. This field displays the last date the Missed Shipment Event Generator was run. This field is for reference only and is set by the system each time the Missed Shipment Event Generator is run.

Include Purchase Orders. Enter Yes or No to specify whether the Missed Shipment Event Generator should consider purchase orders. This value sets the default for the same field in the Missed Shipment Event Generator screen.

Include DRP Orders. Enter Yes or No to specify whether the Missed Shipment Event Generator should consider distribution orders. This value sets the default for the same field in the Missed Shipment Event Generator screen.

Include Scheduled Orders. Enter Yes or No to specify whether the Missed Shipment Event Generator should consider scheduled orders. This value sets the default for the same field in the Missed Shipment Event Generator screen.

Net Same Day Receipts. Enter Yes or No (the default) to indicate whether multiple same-day receipts should be netted as one receipt when calculating the supplier's overall report card score.

Enable Inv Transfer. Enter Yes or No (the default) to specify whether the system should prompt the user for supplier performance data during inventory transfers.

Yes: A supplier performance data pop-up appears in the inventory transfer programs when transferring material from the inspection location specified in the Purchasing Control File (5.24).

Transfer programs are:

- Transfer–Single Item (3.4.1)
- Transfer–Multi Item (3.4.2)
- Transfer with Lot/Serial Change (3.4.3)
- Batchload Transfer with Lot/Serial Change (3.4.4)

Enable PO Return. Enter Yes or No (the default) to specify whether the system should prompt the user for supplier performance data during purchase order returns.

Yes: A supplier performance data pop-up appears in Purchase Order Returns (5.13.7) and RTS Shipments (11.7.3.16).

Tip
This field also controls the RTS pop-up.

Maximum ASN Lead-Time. Enter the maximum lead time for advance ship notices (ASN).You must use the standard hour and minute time format (HH:MM).

This field determines the amount of time allowed between the time a shipment leaves the supplier's dock and the time the ASN for that shipment is created and sent to the customer.

Example The maximum ASN lead time is 00:20. If a shipment leaves the supplier's dock at 9:00 AM, the supplier must create and send the ASN for that shipment before 9:20. If the supplier sends the ASN after 9:20, the lead time has been exceeded and a late-ASN event is recorded.

This value sets the default for the same field in Registration Maintenance.

Defining Supplier Interval Ratings

Use the Supplier Interval Ratings frame to create a reference table that appears on the supplier report card. The table shows performance levels and is used as a guide for interpreting supplier ratings.



Fig. 11.2
Supplier Performance Ctrl File, Supplier Interval Ratings Frame

To set up the interval ratings table, enter the interval titles with their corresponding maximum score. The system generates the appropriate minimum score numbers for each level and displays the results in descending order.

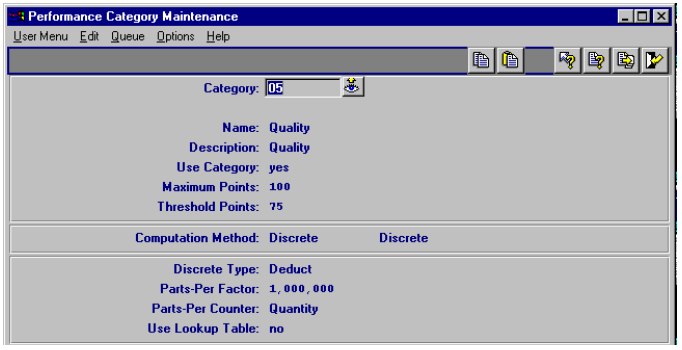
Defining Performance Categories

The next step in setting up Supplier Performance is to define categories in Performance Category Maintenance (5.15.1). Supplier performance uses four predefined system categories to capture and associate event data.

- ASN Information
- PO Receipts
- DO Receipts
- RTS Receipts

You must create category definitions to use the data captured by system categories. The system uses the details from the category definitions you create to sort, calculate, and report on data captured by the corresponding system categories.

Fig. 11.3 Performance Category Maintenance (5.15.1)



Aspects of the category you can customize include:

- Naming the category

  You can use the predefined system category names or create names to fit your environment.

- Activating or deactivating categories

  You can have multiple categories in your system but use only a subset of these. If you want to stop using a category without deleting it from your system, deactivate it in the Use Category field. If you want to stop reporting for a category without stopping data collection, use Supplier/Category Maintenance (5.15.3).

- Defining point values

  Use Maximum Points to indicate the maximum allowable points for the category. Use Threshold Points to define the minimum number of points a supplier can have in the category before that supplier is considered deficient.

- Defining computational methods

  Use Computational Method to indicate how performance points are calculated for the category.

- Setting lookup table ranges when applicable

See "Understanding the Lookup Table" on page 126.

Use Performance Category Inquiry (5.15.2) to view the categories you create using Performance Category Maintenance.

Using the Computational Methods

Categories are scored using one of three computational methods, each with its own attributes and purpose.

Discrete method. This method involves adding or deducting points from a category's starting value or maximum points. The Discrete Type field determines if the event adds to or deducts from the supplier's score. This method is commonly used with subjective categories, but can be used by all categories.

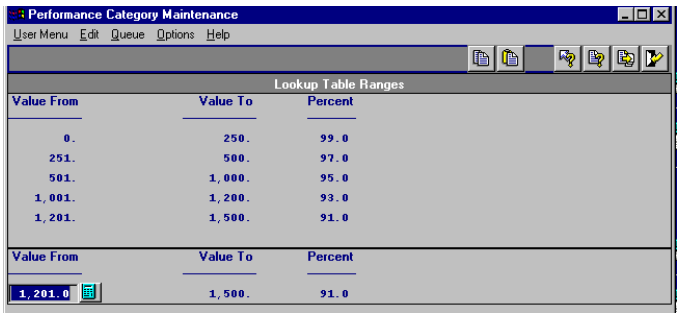
Proportion method. This method distributes the total points based on a number of occurrences captured. It takes into account the number of occurrences captured and the number of events captured. This supports manufacturers who, for example, determine that the number of deliveries should be factored into the rating on delivery.

Parts-per method. This method uses a factoring value (typically 1 million) to extrapolate the points awarded and produces a result that helps differentiate suppliers having almost perfect scores. The parts-per method includes a lookup table. The table contains the range of values for lookup and an associated percentage of category points.

Understanding the Lookup Table

When you are using the parts-per computational method you can create a reference lookup table. Set Use Lookup Table to Yes to create and use a lookup table for a supplier. The values you set up in this table are used by the Performance Report Card (5.15.15) to calculate the supplier's score percentage.

Fig. 11.4 Performance Category Maintenance, Lookup Table Ranges Frame



Many manufacturing companies set specific performance guidelines for their suppliers. The lookup table is used when these guidelines indicate a parts per number.

One example of the lookup table's use is:

- A company requires a supplier to have no more that 50 defective parts per million.
- For that company, the category Quality is worth 50 points on the report card.
- To manually calculate the parts per number, you take the actual number of defective parts and the total number of parts and put them into terms of the Part-per value (in this case a million) using the following formula:

  *[part per number= (defective parts/total parts shipped) * 1,000,000]*

When a supplier ships 100,000 parts with 34 defective, the supplier's part per number is 340, calculated as:

*[parts per=(34/100,00)*1,000,000]*

This part per number (340) still needs to be related to what the supplier should receive for the category. This is the purpose of the lookup table.

In Figure 11.4, the 340 part per number fits into the interval of 251-500, so the Quality category would receive 97% of 50 points, or 48.5 points.

Defining Performance Events

After setting up category definitions, create event definitions in Performance Event Maintenance (5.15.5). Events are actions—positive or negative—that the system records and uses as supplier performance data. Examples of events are on-time delivery, quality of items, undershipment, or overshipment.

Event points are used by the discrete computational method only. The proportional and parts-per computational methods use ratios to rate suppliers based on activity.

As events occur, points are awarded to the supplier. These events are termed *system events* because the system can automatically recognize and count them. You must create event definitions to use the data captured by the system events. The details from the event definitions you create are used to sort, calculate, and report on data captured by the corresponding system events.

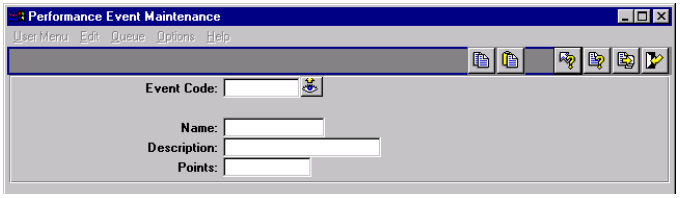


Fig. 11.5
Performance Event Maintenance (5.15.5)

You define the points corresponding to the events during setup. Once your system is active, it automatically recognizes the event, and the event definition indicates how to award point values. This reduces the amount of manual data entry needed during the normal business flow.

See “Creating Category and Event Relationships” on page 128.

Events of a subjective nature are termed *subjective events*, since it takes a user decision to determine the event. These user-interpreted events are captured manually using the various Supplier Performance pop-up windows or using Performance Data Maintenance (5.15.13).

System events are negative events such as late shipment, overshipment, or duplicate ASNs. Subjective events can be positive, such as good phone

support or sharing research costs. They can also be negative, such as wrong labeling or excess freight charges.

You can update the definition of both system and subjective events at any time. Changes take effect immediately.

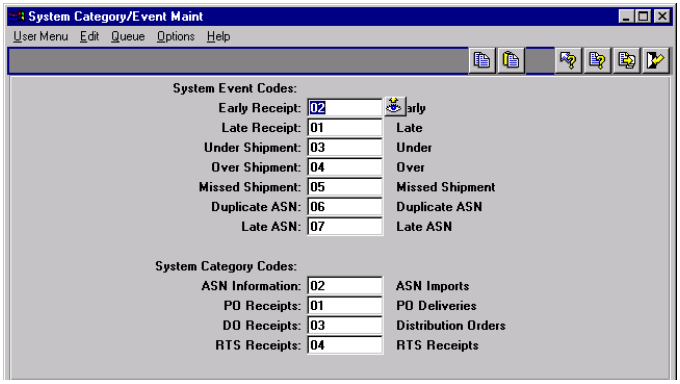
Use Performance Event Inquiry (5.15.6) to view the event definitions you create using this program.

Creating Category and Event Relationships

After defining categories and events, use System Category/Event Maint (5.15.22) to relate system categories and events with the category and event definitions you created in Performance Event Maintenance and Performance Category Maintenance.

As automatic data collection takes place, these category and event code cross-references are used to relate the system activities to the supplier report card using your category and event definitions. The category and event definition codes tell the system where to place the data.

Fig. 11.6
System Category/ Event Maint (5.15.22)



In some situations, not all system categories and events are used; leave these references blank. Entries in all fields are optional. When you leave a field blank, the automatic data collection process does not create events for that system category or event. If you modify a field and remove the value, the system stops collecting data for these categories and or events.

Defining Weight Factors

After relating categories and events, define weight factors for your system using Performance Weight Factor Maint (5.15.7).

Weight factors are multipliers used to affect the value of an event by compounding its severity. Weight factors are only applied to discrete categories. The weight factors you create should reflect the type of impacts you want to have on your suppliers' ratings. Some examples of weight factors you can apply to the quality of a commodity delivered to you are normal, excellent, and poor.

Weights are typically used for negative events to indicate the level of disruption to a normal routine. You predefine weight factors in order to provide consistency in their use. Applying a weight to an event is a manual task and is done in Performance Data Maintenance (5.15.13). The system is designed to allow weights to be applied to events at any point after the events have been recorded.



Fig. 11.7
Weight Factor Maintenance (5.15.7)

Weight factors are optional measurements, but can be an important part of the performance measurement system. The weight factors you create will vary depending on your manufacturing environment.

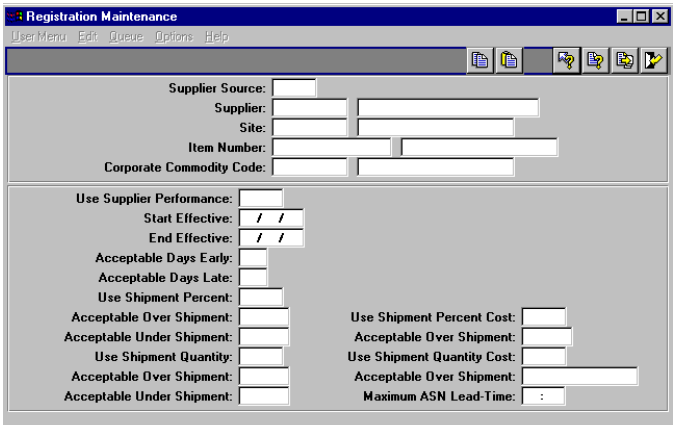
Example A supplier provides you with uncommonly poor-quality goods. The associated Poor Quality event code is worth 1 point. However, you apply the Extremely Poor weight factor, which has a value of 3.00. The system calculates the new weighted performance event score as 3 (1 x 3.00). The weighted performance event score displays on the supplier's report card.

Use Performance Weight Factor Inquiry (5.15.8) to view the weight factors created using this program.

Creating Registrations

The final step in setting up the Supplier Performance system is to register the suppliers, items, commodity codes, or sites to be monitored. Use Registration Maintenance (5.15.10) to create registrations that indicate the items, suppliers, commodity codes, sites, or combination of these to track and rate. You can also use Registration Maintenance to exclude any registration from performance tracking by setting Use Supplier Performance to No.

Fig. 11.8 Registration Maintenance (5.15.10)



To create a registration, enter identifying information in the first frame. You can fill in all of the fields to measure performance for very specific suppliers that meet the criteria. A very specific registration could be for a certain item, from a specific supplier, at a specific site.

You can specify only one field to collect data for a broader range. If you specify a commodity code only, for example, performance data is collected for both PO and DO suppliers from all sites that supply any item belonging to the commodity code you specify.

See “Use Supplier Performance” on page 118.

The data in the second frame defaults from the Supplier Performance Ctrl File (5.15.24). Modify the default information according to the specific need of the registration you are creating.

Use Registration Report (5.15.11) to view all details associated with the registrations you create in this program.

Collecting Data Without Reporting

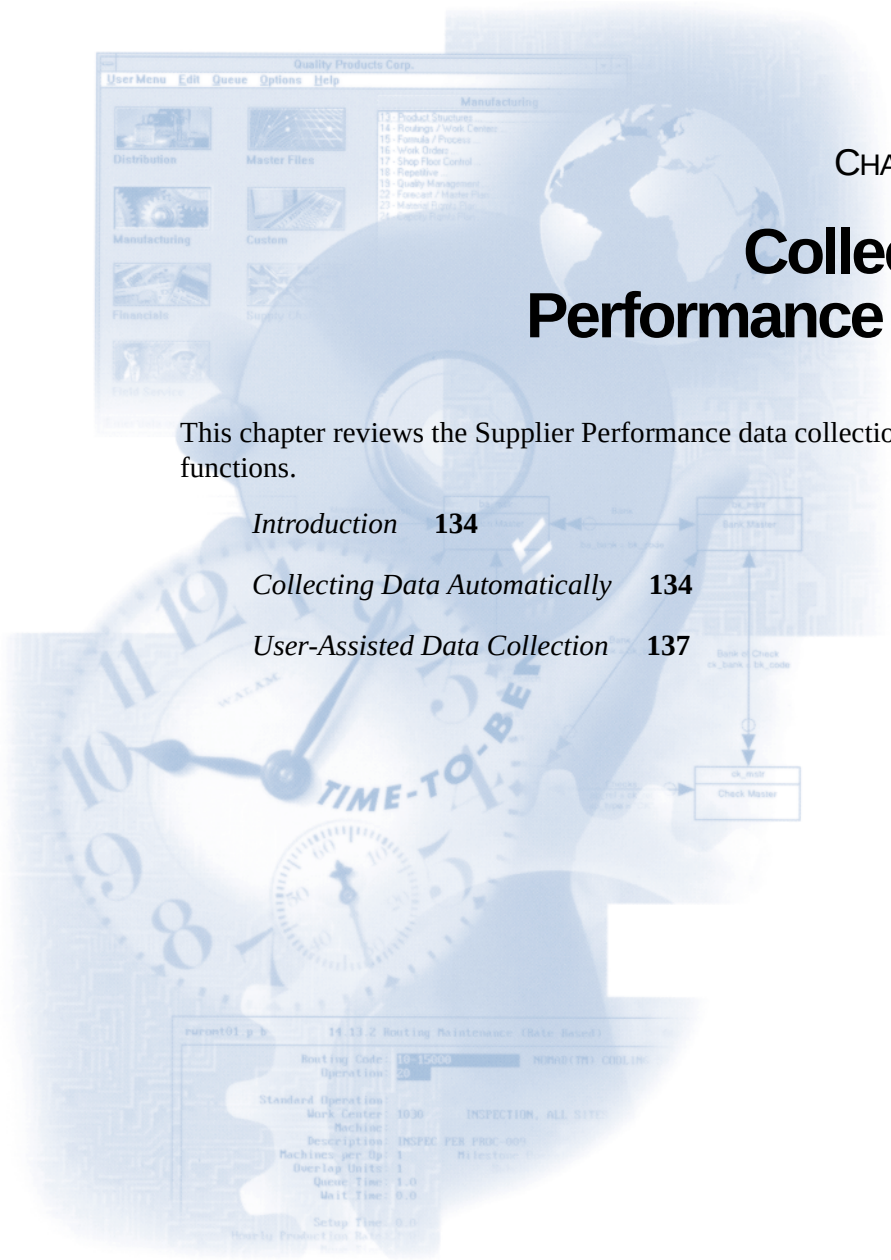
Use Supplier/Category Maintenance (5.15.3) to disable the reporting of data for a particular supplier, site, or any site and supplier combination.

This program can create exceptions to the normal registration. By turning off a category for a supplier, the category is still registered, but the information gathered is not used in the score calculation. In effect, you give the category full points on the supplier's report card.

You can disable category data reporting for a supplier and all the sites it serves by leaving the Site field blank. You can disable data reporting for a site regardless of the supplier that serves it by leaving the Supplier field blank.



Fig. 11.9 Supplier/Category Maintenance (5.15.3)



CHAPTER 12

Collecting Performance Data

This chapter reviews the Supplier Performance data collection functions.

Introduction **134**

Collecting Data Automatically **134**

User-Assisted Data Collection **137**

Introduction

This chapter reviews how and where performance data is captured. The following items are discussed:

- Automatic data collection
- User-assisted data collection
- Manual data collection
- Updating captured data with comments, weights, and other information
- Finding missed shipments and how they are handled

Collecting Data Automatically

Performance data can be automatically collected during the following transactions:

- Schedule Update from MRP (5.5.3.1)
- Purchase Order Receipts (5.13.1)
- PO Shipper Receipt (5.23.20)
- RTS Receipts (11.7.3.13)
- Distributed Order Receipt (12.15.20)
- Document Import (35.13)

Each time a measurable transaction occurs, the system checks for associated registrations. Once a registration is confirmed, the performance data is recorded. Figure 12.1 shows the automatic data collection cycle.

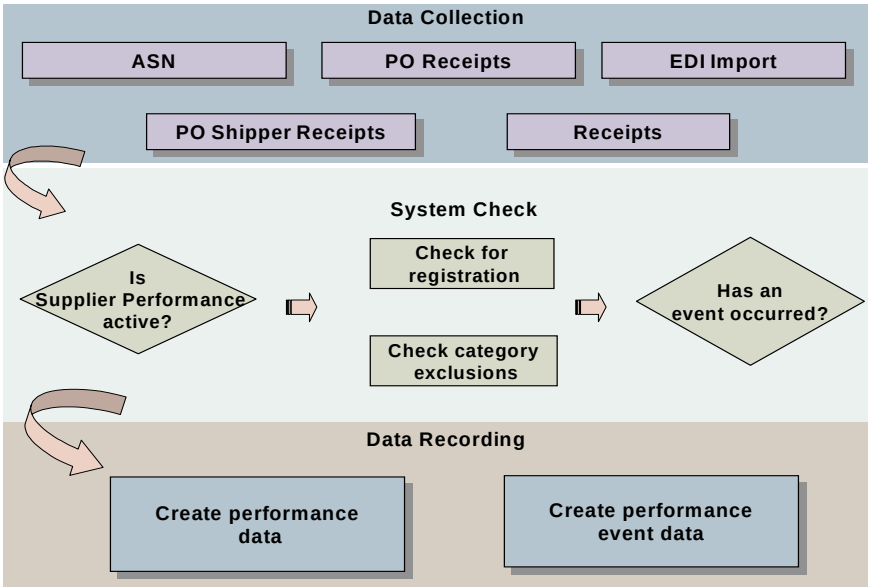


Fig. 12.1
Automatic Data Collection Cycle

When receipts and imports are processed for valid registrations, the system evaluates each receipt and EDI document import to determine if a performance event should be recorded.

Table 12.1 shows all the automatically created performance events and where they are generated. As events are recorded and stored in the your database, you can run the Performance Report Card (5.15.15) or the Performance Data Report (5.15.14) to gauge the supplier's performance against the system-defined categories used during automatic data capture.

Table 12.1
Automatic Data Collection Events and Where They Are Captured

Captured During	Possible Events	
PO Receipts	Early Receipt	Overshipment
	Late Receipt	Undershipment
DO Receipts	Early Receipt	Overshipment
	Late Receipt	Undershipment
RTS Receipts	Early Receipt	Overshipment
	Late Receipt	Undershipment

Captured During	Possible Events	
ASN Import	Late ASN	Duplicate ASN
Schedule Update From MRP	Missed Shipment	

Understanding Automatic Data Collection

Several types of events are automatically generated during various transactions, as shown in Table 12.1 on page 135. These transactions, the possible events, and how the events are captured are discussed here.

PO, DO, and RTS Receipts

During a PO receipt, DO receipt, or RTS receipt, an early, late, overshipment, or undershipment event can be automatically generated, based on the following calculations:

For field information, see "Configuring Control File Settings" on page 118.

1. The receipt date is compared with the planned receipt date. If the receipt is early or late, that number of days is compared with the values specified in Acceptable Days Early or Acceptable Days Late in the control file. When an acceptable value is exceeded, a late or early event is automatically created.

2. The receipt quantity is compared with the open quantity. If the receipt quantity is under or over the open quantity, that quantity is converted to a percent. The difference and difference percent are compared with the values in Acceptable Over Shipment (quantity), Acceptable Under Shipment (quantity), Acceptable Over Shipment (percent), and Acceptable Under Shipment (percent) in the control file. When one of these values is exceeded, an event is automatically created.

3. The cost of the quantity received is compared with the cost of the open quantity. If the quantity-received cost is more than the open-quantity cost, the cost difference is converted to a percent.The cost difference and cost difference percent are compared with the values in Acceptable Over Shipment (cost) and Acceptable Under Shipment (percentage). When one of these values is exceeded, an event is automatically created.

Schedule Update from MRP

During Schedule Update from MRP only missed shipment events are generated. If any overdue quantity exists on the prior schedule as a new schedule release is being generated, that quantity is moved to the cumulative required portion of the schedules, and is seen as a missed shipment. A missed shipment event is automatically created. When the missed shipment arrives it is netted against the schedule and the missed shipment event is replaced with a late shipment event.

Advance Ship Notice

Late ASN events are recorded when the lead time for ASNs specified in Maximum ASN Lead-Time in the Supplier Performance Ctrl File is exceeded. ASN lead time is the amount of time allowed between the time a shipment leaves the supplier's dock and the time the ASN for that shipment is created and sent to the customer. Both of these times are contained within the EDI transaction.

User-Assisted Data Collection

User-assisted data collection can happen in five areas:

- Inventory Transfers (3.4 menu)
- Purchase Order Returns (5.13.7)
- Performance Data Maintenance (5.15.13)
- Missed Shipment Event Generator (5.15.17)
- RTS Shipments (11.7.3.16)

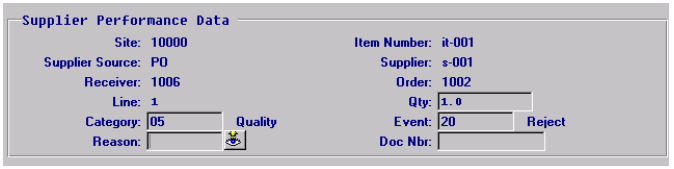
Purchase Order Returns and RTS Shipments

When material is returned, a pop-up window lets you enter a performance event. This pop-up appears only if Supplier Performance is activated in the Supplier Performance Ctrl File (5.15.24) and Enable PO Returns is Yes.

Note RTS shipments are handled in the same way as PO Returns. The same control file flag controls both the PO Returns and RTS pop-up windows.

The vendor and order information defaults to the pop-up but cannot be changed. The Category, Event, Quantity, and Reason fields can be updated. Recording of the event is optional. The pop-up is intended to capture information regarding material quality. To continue without entering an event, press Go.

Fig. 12.2 Supplier Performance Pop-Up in PO Returns



To correct an incorrectly entered receipt that creates a performance event, reverse the entire receipt. Reversing the entire receipt also removes all other performance events associated with that receipt. If you do not reverse the entire receipt, then you must remove any performance events manually. To remove a performance event manually, use Performance Data Maintenance (5.15.13).

Inventory Transfer

The Supplier Performance Data pop-up lets you capture data when using any of the three inventory transfer programs:

- Transfer–Single Item (3.4.1)
- Transfer–Multi Item (3.4.2)
- Transfer with Lot/Serial Change (3.4.3)

See “Configuring Control File Settings” on page 118.

This pop-up appears only if Supplier Performance is activated in the Supplier Performance Ctrl File, Enable Inv Transfer is Yes, and the inventory is being moved from the Inspection Location defined in the Purchasing Control File (5.24).

You can use the pop-up to create a performance event. The pop-up screen works similarly in the three inventory transactions. Because the inventory transactions are generic and not PO/DO related, you must enter the supplier, order, and receiver numbers manually.

Creating and Modifying Performance Data

When performance data is generated for any registration, that data is saved for future reporting. The data is identified by a system-generated transaction ID.

Use Performance Data Maintenance (5.15.13) to access, add, and modify details of the captured performance data. Use this program to manually create performance data. This program displays similar information as Transaction History (27.21).

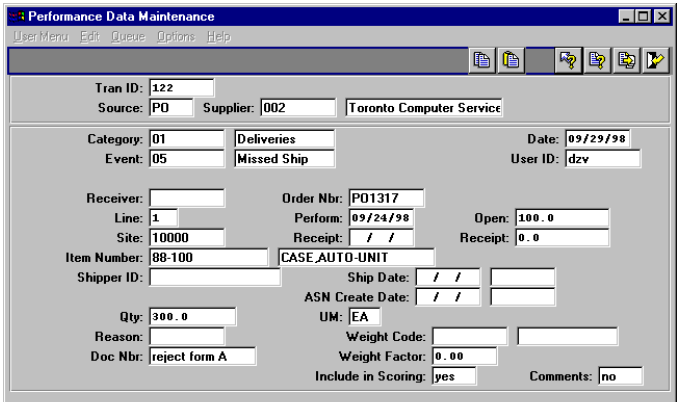


Fig. 12.3
Performance Data Maintenance (5.15.13)

The system-generated transaction ID identifies specific events associated with the corresponding registrations and the particular performance details.You can use this program to search for specific performance records. Each time this program is accessed, the first screen appears without data. Enter the Tran ID, or browse existing IDs using the up and down arrows. Pertinent performance data is also displayed.

Modify captured performance data by adding performance weight factors or updating other fields.

1. Identify and select the corresponding Tran ID.
2. Navigate to the fields you need to edit.
3. Enter any new information or comments, or add the appropriate performance weight factor codes.

You can manually create new performance data—for example, add a note about performance that is not captured by the system, such as bad telephone service or lack of professionalism.

1 Leave Tran ID blank.

2 Enter the new data in the appropriate fields.

3 Save the new record.

A new Tran ID is generated and assigned to the new data.

Missed Shipment Event Generator

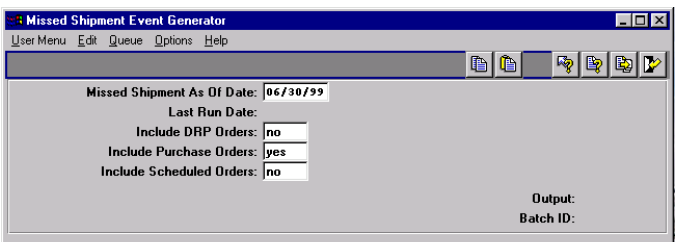
Use Missed Shipment Event Generator (5.15.17) prior to generating performance reports. This program updates performance data with the most current results. It evaluates open POs, DOs, and scheduled orders, then creates missed shipment events for any orders not fully reconciled by the missed shipment as of date indicated.

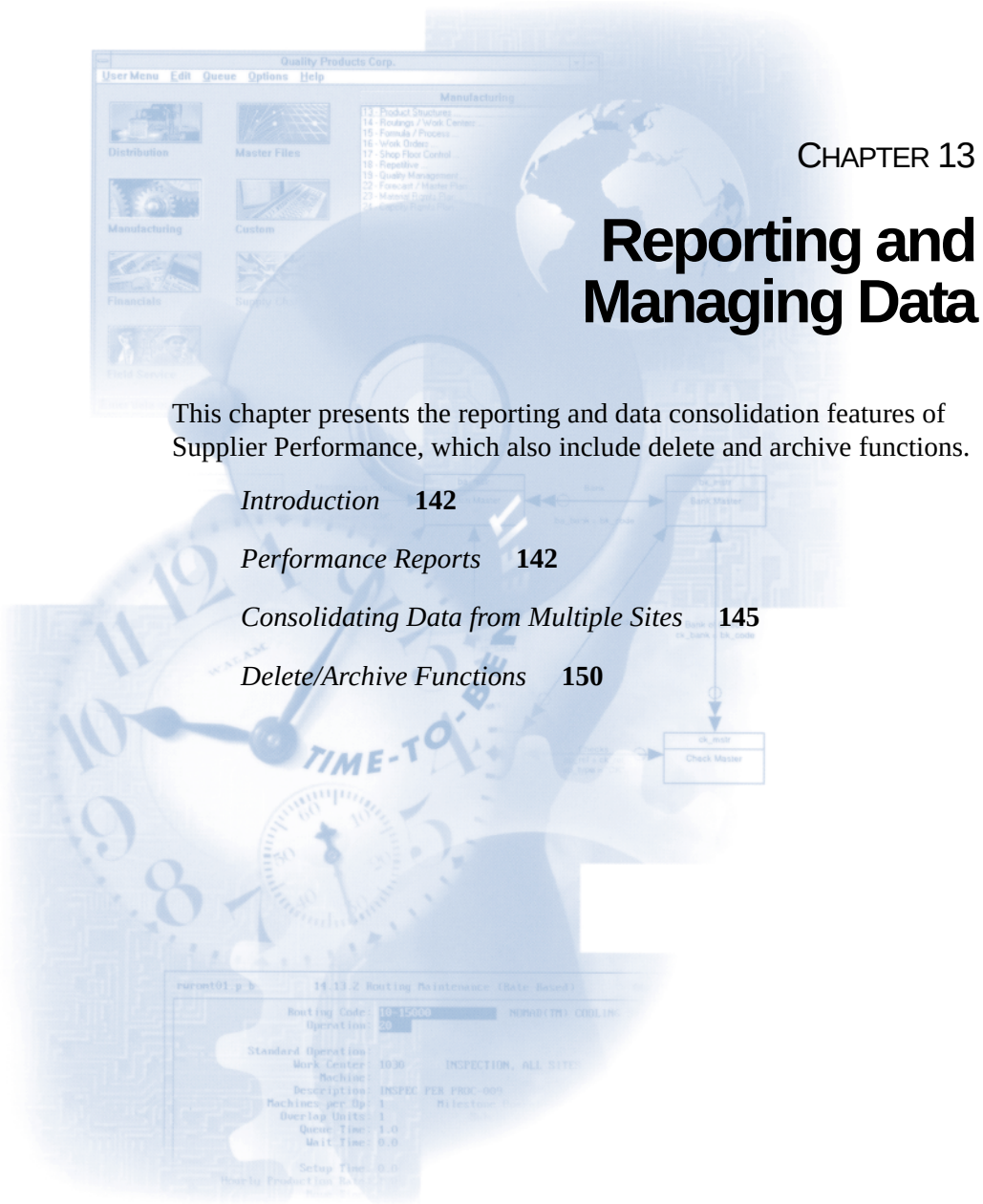
See “Configuring Control File Settings” on page 118.

Indicate the type of orders evaluated by specifying defaults in the control file or making changes in this window. Missed shipment events are created only for valid registrations.

Note Missed shipment events do not remain in the system. They are removed upon receipt of the associated late shipment.

Fig. 12.4 Missed Shipment Event Generator (5.15.17)





CHAPTER 13

Reporting and Managing Data

This chapter presents the reporting and data consolidation features of Supplier Performance, which also include delete and archive functions.

Introduction **142**

Performance Reports **142**

Consolidating Data from Multiple Sites **145**

Delete/Archive Functions **150**

Introduction

The output of a successful supplier performance system is a detailed supplier performance report. Supplier Performance uses various reports. This chapter discusses the reporting, data consolidation, and delete/archive functions of Supplier Performance.

The performance reports are:

- Performance Category Inquiry (5.15.2)
- Registration Report (5.15.11)
- Performance Data Report (5.15.14)
- Performance Report Card (5.15.15)
- Summary Data Report (5.15.20)

The data consolidation programs and reports are:

- Summary Data Extract (5.15.19)
- Performance Data Delete/Archive (5.15.23.1)
- Summary Data Delete/Archive (5.15.23.2)
- Supplier Cross-Reference Maint (5.15.23.3)
- Supplier Cross-Reference Report (5.15.23.4)

Performance Reports

Performance Report Card

Ideally, this is the system report you give to your suppliers to indicate their performance as measured by your system. You can automatically E-mail this report to your suppliers.

The Performance Report Card (5.15.15) is a snapshot in time of a supplier’s overall rating. The program generates supplier ratings by examining performance data based on selection criteria you enter. This data is then scored according to parameters associated with categories, events, and weights.

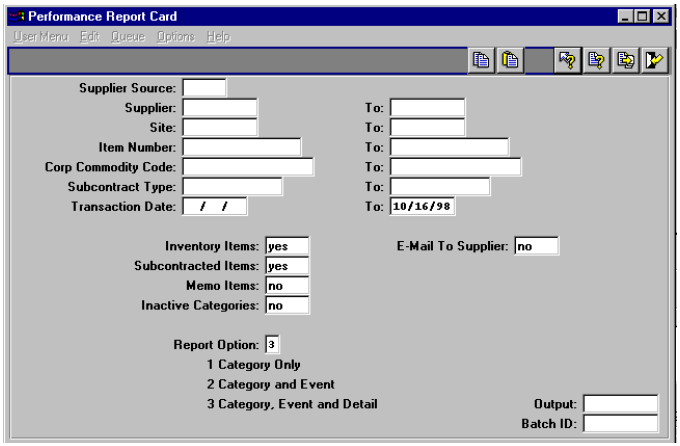


Fig. 13.1
Performance Report Card (5.15.15)

This report can be produced with various information. Set Inactive Categories to Yes to include all categories in the system, even those not currently being used. You can indicate what other types of items to include, and the report is printable with three levels of detail. Each report option displays a new level of information detail for the report card:

- Category
- Category and Event
- Category, Event, and Detail

Performance Data Report

Use the Performance Data Report (5.15.14) to examine raw performance data.

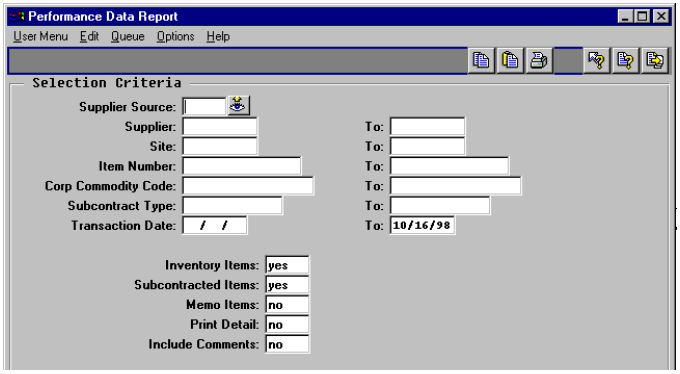


Fig. 13.2
Performance Data Report (5.15.14)

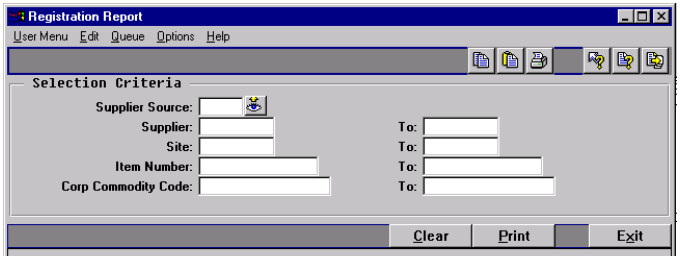
With this flexible report you can:

- View data in multiple detail and summary formats
- Select data by multiple selection criteria
- View event comments

Registration Report

Use Registration Report (5.15.11) to view all details associated with the registrations you create in Registration Maintenance (5.15.10). When you enter a value in a selection criteria field, the report finds and reports the complete details of any registration that has that value.

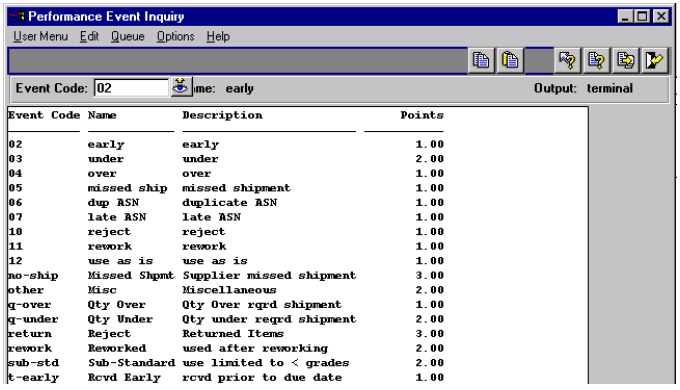
Fig. 13.3
Registration Report (5.15.11)



Performance Event Inquiry

Use Performance Event Inquiry (5.15.6) to view the event definitions you create using Performance Event Maintenance (5.15.5). This inquiry displays the indicated event definition followed by subsequent definitions that reside on the system.

Fig. 13.4
Performance Events Inquiry (5.15.6)



Performance Category Inquiry

Use Performance Category Inquiry (5.15.2) to view the category definition details you create using Performance Category Maintenance (5.15.1). When a lookup table has been defined for a category, its values also display.

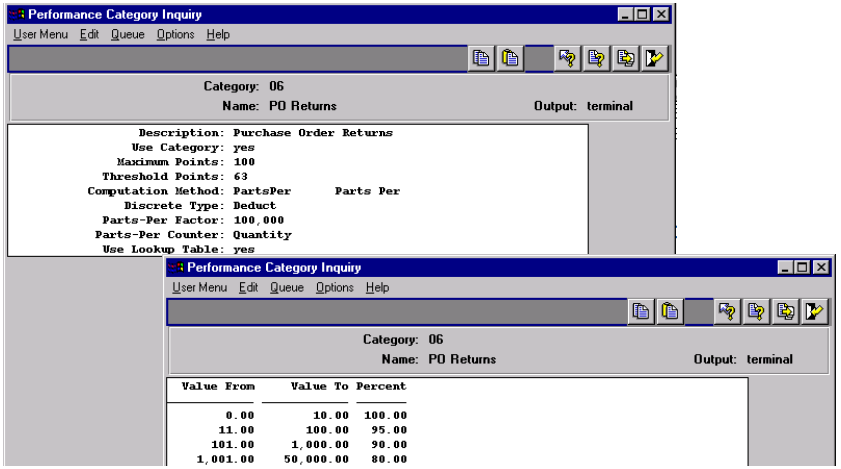


Fig. 13.5
Performance Category Inquiry (5.15.2)

Consolidating Data from Multiple Sites

You can consolidate performance data from multiple sites to one central database using Archive File Reload (36.16.5) to load files produced by Performance Data Delete/Archive and Summary Data Delete/Archive.

See “Delete/ Archive Functions” on page 150.

Supplier Cross-Reference Maint

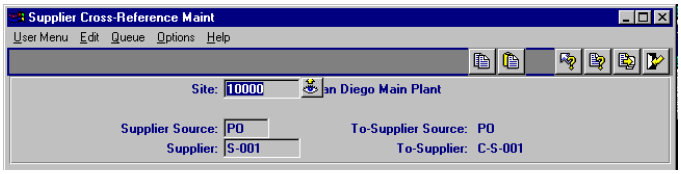
When you consolidate performance data or summary performance data from multiple sites to one local database, performance data labeling variations may occur. Use Supplier Cross-Reference Maint (5.15.23.3) at each reporting site to help you resolve any supplier name inconsistencies.

In this program, you indicate:

- The supplier source and name you gave the supplier, and
- The supplier source and name that is used at the corporate site

When data is archived using these cross-references, the archive data is saved with the correct corporate name, instead of the name used at the reporting site.

Fig. 13.6
Supplier Cross-Reference Maint (5.15.23.3)



Supplier Source. Enter DO or PO to differentiate the type of source supplier being referenced.

PO: Only suppliers previously defined in Supplier Maintenance can be specified in the Supplier field.

DO: Only sites previously defined in Site Maintenance can be specified in the Supplier field.

Supplier. Enter the supplier name as recognized at the local site.

To-Supplier. Enter the corporate name for the local supplier.

When performance data or performance summary data is archived and Use Cross-Reference is Yes, the local site name is changed to this corporate site name in the archive file only.

Example Site 2000, 3000, and 4000 all track performance for their suppliers. ABC Inc. is a supplier for all three sites, but each site identifies ABC Inc. with a different supplier code (001, 505, and 100).

These three sites must produce monthly supplier performance data for their corporate headquarters. The corporate headquarters uses the name ABC Inc. to consolidate the monthly data. To resolve the supplier name inconsistencies when consolidating data from these sites, each site uses Supplier Cross-Reference Maintenance to map their supplier names (001, 505, and 100) to the corporate name (ABC Inc.).

When the archive functions are used at site 2000, 3000, and 4000, the performance data is archived using the defined supplier cross-references. The archive files with the corporate supplier name are then sent to the corporate headquarters where they are consolidated into one database using Archive File Reload (36.16.5).

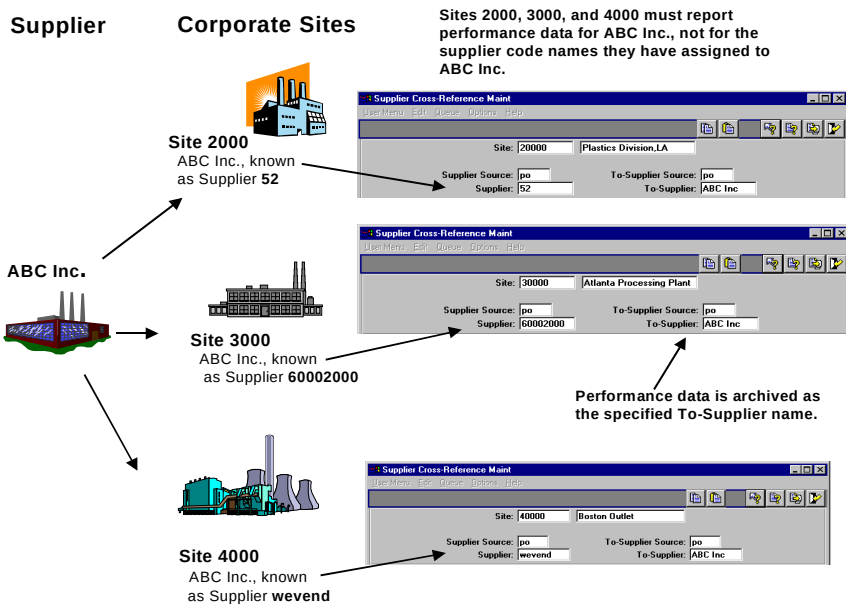


Fig. 13.7
Cross-Reference Example

Supplier Cross-Reference Report

Use Supplier Cross-Reference Report (5.15.23.4) to examine the cross-references created in Supplier Cross-Reference Maint.

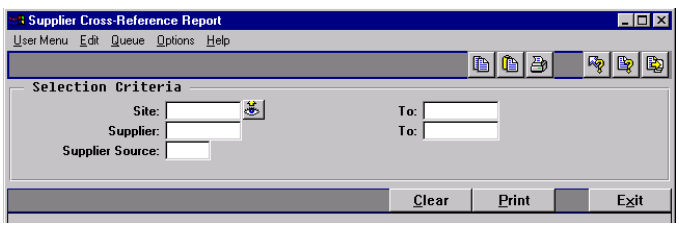


Fig. 13.8
Supplier Cross-Reference Report (5.15.23.4)

Figure 13.9 shows the report output.

Fig. 13.9
Supplier Cross-Reference Report Output (5.15.23.4)

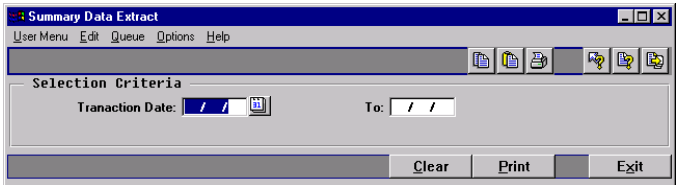
```
povexrp.p              5.15.23.4 Supplier Cross-Reference Report
Date: 10/16/98
Page: 1                                  9.0 Cycle Test
Time: 16:51:26
                  From      1000                              To    10010

Site     Source Supplier Description                Supplier
-------- ------ -------- ------------------------   --------
10000    PO     77000    Waycombe                    77-A
10000    PO     77001    Carl Tech                   77-B
10000    PO     77002    AB&E Enterprise             77-C
10000    PO     77003    Kitty Inc.                  77-D
10000    PO     77004    Guileful Co                 77-E
10000    PO     77005    Jamaica metals              77-F
10000    PO     77006    Mato Inc.                   77-G
12000    DO     33003    Dsite12000 ooo              6766
10000    DO     77000    R10003se                    787-A
10005    DO     00002    AB&E site 1000e             778-C
10006    PO     45603    Kitco Inc.                  778-D
10007    PO     98764    Jolopie Manufacturers       778-E
10008    PO     73245    JannaCo metals              778-F
10009    PO     34568    RG Labels Inc.              778-G
```

Summary Data Extract

Use the Summary Data Extract (5.15.19) to collapse and compress supplier performance data for the purpose of historical reporting. A date range is used for the selection criteria of the extract. The summarized data retains enough information to match the criteria used in the Performance Report Card (5.15.15).

Fig. 13.10
Summary Data Extract (5.15.19)



Summary Data Extract takes the information in your database and, based on the selection criteria, summarizes and saves the data as a separate record in the database. After you run this program multiple times, you can use these individual records for data reports.

Example If you run this program every month for six months and retain the information in your system, at the end of the six-month period you can run the Summary Data Report (5.15.20) to view the six summary reports you created during the reporting period.

Depending on reporting policies in your MFG/PRO eB environment, you can use the summarized data as the basis for your long-term reports. When combining data from multiple reporting sites, use Supplier Cross-Reference Maint (5.15.23.3) at each site to solve supplier name inconsistencies between sites.

See “Supplier Cross-Reference Maint” on page 145.

Summary Data Report

Use the Summary Data Report (5.15.20) to review a supplier’s overall rating for the date range originally extracted using the Summary Data Extract. The format is the same as that of the Performance Report Card (5.15.15). The date range determines which sets of summary records are included in the report. Each set of records produces a separate report card for the date range indicated.

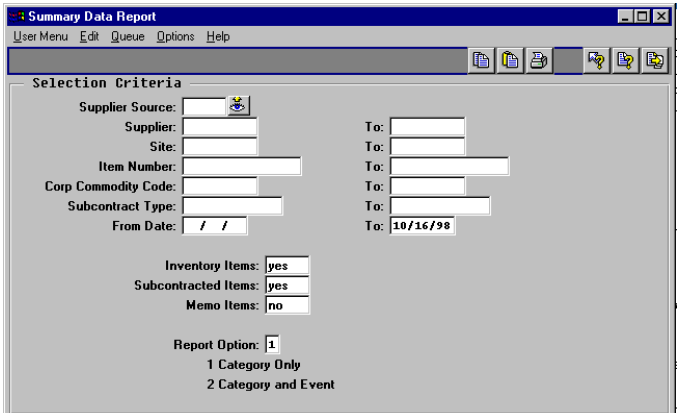


Fig. 13.11 Summary Data Report (5.15.20)

You can run this report with two levels of detail:

- Category only
- Category and event

You can also include or exclude inventory, subcontract, or memo items from the report.

Delete/Archive Functions

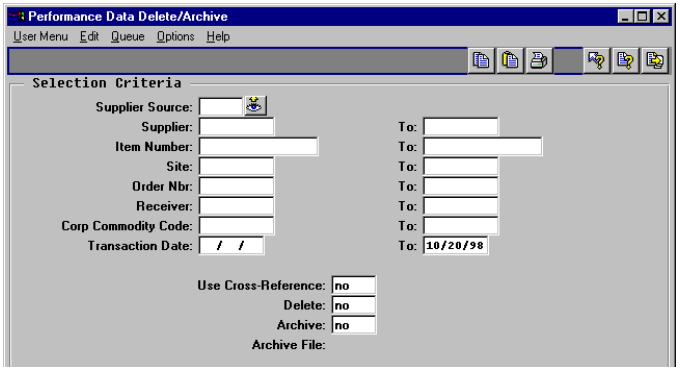
Supplier Performance delete and archive functions are similar to other delete/archive functions. The archive file produced by the delete/archive functions is also used for data consolidation from multiple sites.

Performance Data Delete/Archive

Use Performance Data Delete/Archive (5.15.23.1) to delete and archive performance data. You cannot delete performance data in any other Supplier Performance program. You can also archive performance data without deleting it from your system.

For data consolidation purposes, the archive file produced can be reloaded using Archive Data Reload (36.16.5). You can also archive performance data using the corporate standardized supplier names you defined in Supplier Cross-Reference Maintenance (5.15.23.3).

Fig. 13.12
Performance Data Delete/Archive (5.15.23.1)



Summary Data Delete/Archive

Use Summary Data Delete/Archive (5.15.23.2) to delete and/or archive summary performance data created by Summary Data Extract. You can also archive summary data without deleting it from your system. For data consolidation purposes, the archive file produced can be reloaded using Archive Data Reload (36.16.5). You can also archive summary data using the corporate standardized supplier names you defined in Supplier Cross-Reference Maintenance (5.15.23.3).

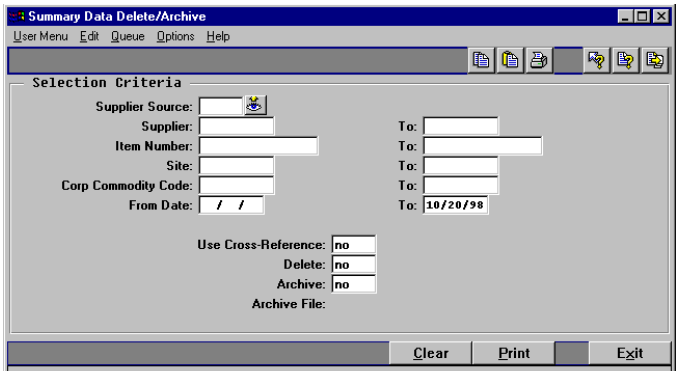


Fig. 13.13
Summary Data Delete/Archive (5.15.23.2)

SECTION 4

Global Requisition System (GRS)

This section includes information about the Global Requisition System (GRS) module. The following chapters are included:

Introduction to GRS **155**

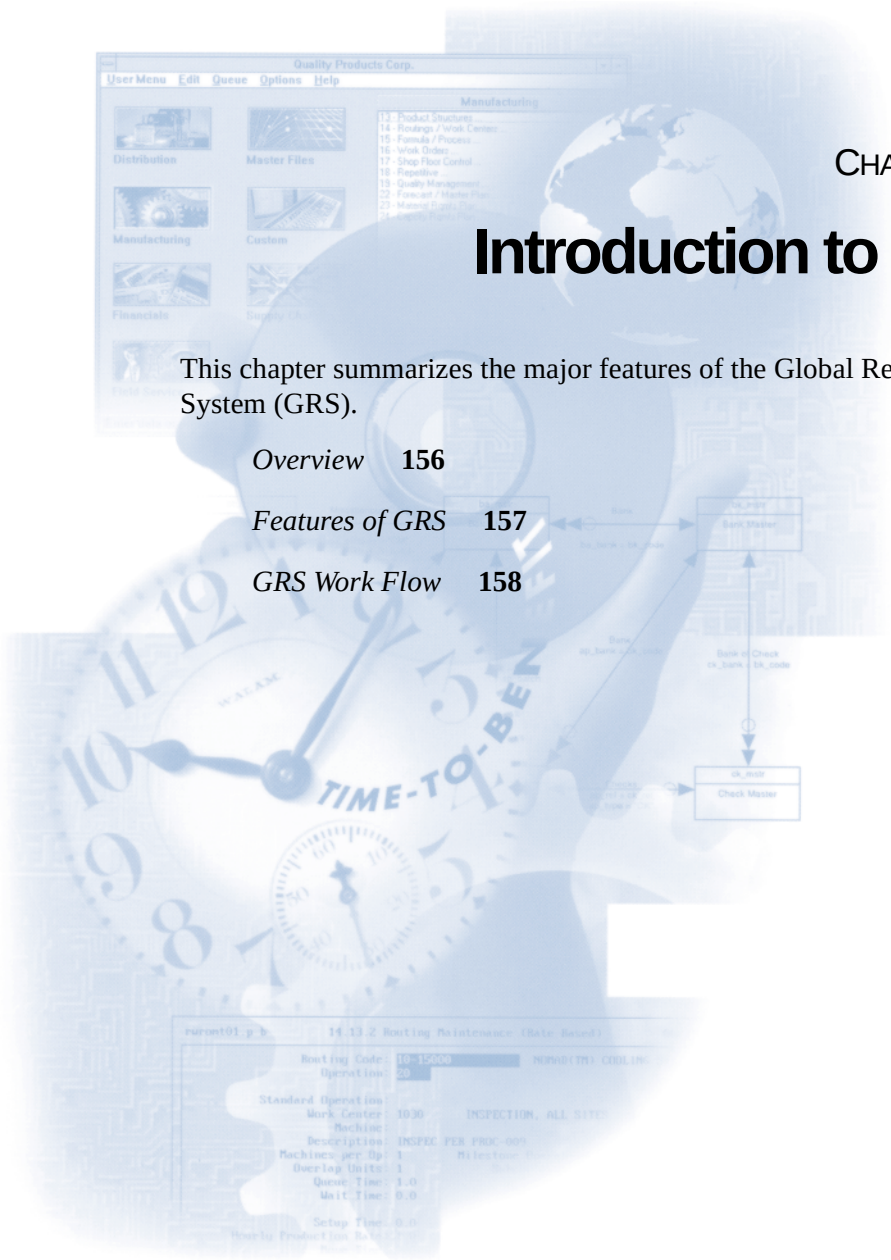
Implementing GRS **161**

Creating Purchase Requisitions **179**

Reviewing and Approving Purchase Requisitions **195**

Using Requisitions to Build Purchase Orders **203**

GRS Reports and Inquiries **213**



CHAPTER 14

Introduction to GRS

This chapter summarizes the major features of the Global Requisition System (GRS).

Overview **156**

Features of GRS **157**

GRS Work Flow **158**

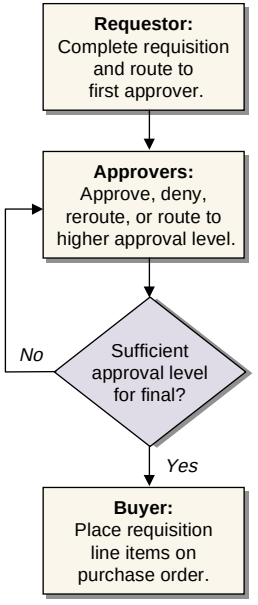
Overview

The Global Requisition System (GRS) lets you create multiple-line purchase requisitions and route them through the approval process. Based on the type of purchase, the cost, and the requestor's department, the system determines which individuals are authorized to approve the requisition. Optionally, GRS sends E-mail messages throughout the requisition life cycle to communicate status and required actions to originators, end users, reviewers, approvers, and buyers.

Reviewers and approvers can use the features of GRS to modify, approve, deny, or cancel entire requisitions or individual line items. When a requisition has been approved at the specified final level, a buyer can use approved requisition lines to build purchase orders (POs).

Figure 14.1 is a simplified flow diagram of the requisition process.

Fig. 14.1
Requisition Process



Features of GRS

Flexible Approval Process

You can set up approval levels based on the way you assign responsibilities within your company.

- Approvers can be defined *vertically* through your organization, relating the approval levels to entities, sub-accounts, and cost centers.
- You can also set up approvers *horizontally* based on the categories of items they are approving.
- If an individual is responsible for a project that crosses different organizations, you can set that person up as a *job* approver.
- Or, a person who is responsible for replenishing inventory used for manufacturing can be a *product line* approver.

Multiple-Line Requisitions

Unlike standard requisitions in MFG/PRO eB, which support one item only, GRS features multiple-line entry. You set up default information, such as the supplier, the requesting site, and the need date, in a header applying to the whole requisition. If you need to change any of this information for a single line item, you can override much of it on a line-by-line basis while you are entering individual requisition items.

You can also create a multiple-line requisition by approving a group of MRP planned orders.

System-Generated E-Mail

From the time a requisition begins the approval process until the last line item is referenced on a purchase order, GRS can use your E-mail system to advise end users, reviewers, and approvers of the requisition's status. Messages include notifications that a requisition is waiting for an approval and notifications to buyers when requisitions are approved.

If you use these features, you have two choices of E-mail mode. In regular mode, a minimum number of messages are generated, mainly to inform

approvers that their inputs are needed. If you select extended mode, the system also sends status messages to the requestor and end user.

PO Build from Requisitions

GRS reduces repetitive data entry by letting you generate a purchase order directly from approved requisitions. Common data from the requisition header is copied into the purchase order header. You can then copy approved requisition line items to build the detailed line items on the purchase order.

GRS Work Flow

Table 14.1 shows the functions available in the GRS module.

Table 14.1
Global Requisition Menu (5.2)

Menu Number	Description	Program Name
5.2.1.1	Approval Level Maintenance	rqlmt.p
5.2.1.2	Approval Level Browse	rqliq.p
5.2.1.4	Category Maintenance	rqcmt.p
5.2.1.5	Category Report	rqcrp.p
5.2.1.7	Job Maintenance	rqjmt.p
5.2.1.8	Job Browse	rqjiq.p
5.2.1.13	Horizontal Approver Maintenance	rqahmt.p
5.2.1.14	Vertical Approver Maintenance	rqavmt.p
5.2.1.15	Job Approver Maintenance	rqajmt.p
5.2.1.16	Product Line Approver Maint	rqaplmt.p
5.2.1.17	Approver Report	rqarp.p
5.2.1.20	Buyer Maintenance	rqbmt.p
5.2.1.24	Requisition Control File	rqpm.p
5.2.3	Requisition Maintenance	rqrqmt.p
5.2.4	Requisition Inquiry	rqrqiq1.p
5.2.5	Requisition Browse	rqrqiq5.p
5.2.6	Requisition Report	rqrqrp5.p
5.2.8	Requisition History Log	rqrqrp4.p
5.2.13	Requisition Approval Maintenance	rqapmt.p
5.2.14	Requisition Routing Maintenance	rqrtmt.p

Menu Number	Description	Program Name
5.2.15	Approval Status Inquiry	rqrqiq2.p
5.2.16	Approver's Open Req. Inquiry	rqrqiq3.p
5.2.17	PO and Req. Cross Reference	rqpoiq.p
5.2.18	Build PO from Requisitions	rqpobld.p
5.2.21	Out of Tolerance Inquiry	rqrqiq4.p
5.2.23	Requisition Delete/Archive	rqrqup.p

GRS programs fall into five groups. The programs you use depend on your role in the requisition process.

- GRS setup (system administrator)
- Requisition creation (requestors)
- Requisition approval (reviewers and approvers)
- PO build (buyers)
- Reports and inquiries (as needed)

Figure 14.2 shows the overall flow of GRS tasks. Subsequent chapters describe each step in the requisition process.

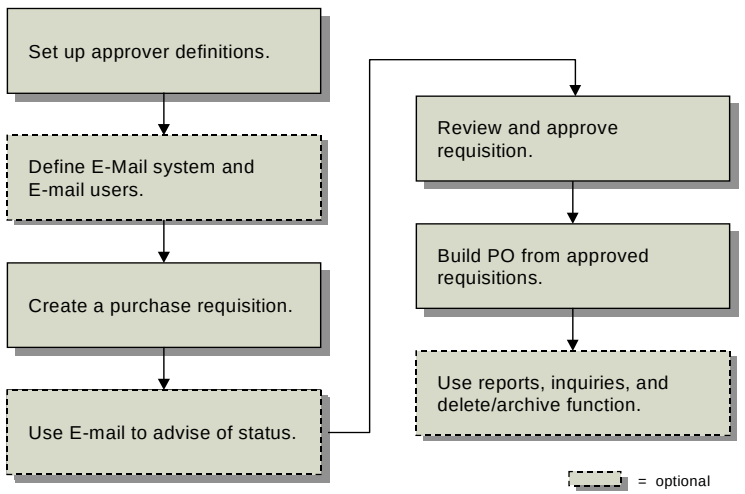


Fig. 14.2
GRS Task Flow

CHAPTER 15

Implementing GRS

This chapter describes how to set up the Global Requisition System based on the specific way your company wants to use the requisition approval process.

Introduction **162**

Planning the Approval Process **164**

Setting Up Requisition Defaults **167**

Setting Up Automated E-Mail (Optional) **170**

Defining Approval Levels **171**

Setting Up Categories **172**

Setting Up Jobs **173**

Setting Up Buyers **174**

Setting Up Approvers **175**

Introduction

This chapter is designed for the system administrator responsible for preparing GRS for use. Topics include:

- Planning the best way to set up GRS for your company.
- Establishing data for the system to use during the requisition process.
  - Requisition Control File: default settings for the system to use.
  - E-Mail: If your company wants to use system-generated E-mail, define the E-mail system you use and specify user E-mail addresses.
  - Approval Levels: two-digit codes related to maximum amounts of a specified approval currency.
  - Categories: sets of related GL accounts with a single approver or group of approvers across organization structures; used when establishing horizontal approvers for types of items.
  - Jobs: limited-duration tasks, such as projects. Used to allow approval authority over a range of organizational structures, but only if associated with a specific job.
  - Buyers: individuals responsible for referencing approved requisition items on purchase orders.
  - Approvers: horizontal, vertical, job, and product line, depending on how your company wants to authorize purchases. Can be defined using various combinations of levels, categories, jobs, entities, sub-accounts, and cost centers.

The Global Requisition Setup Menu (5.2.1) lists the programs used to implement the purchase requisition process.

Table 15.1
Global Requisition Setup Menu (5.2.1)

Menu Number	Description	Program Name
5.2.1.1	Approval Level Maintenance	rqlmt.p
5.2.1.2	Approval Level Browse	rqliq.p
5.2.1.4	Category Maintenance	rqcmt.p
5.2.1.5	Category Report	rqcrp.p
5.2.1.7	Job Maintenance	rqjmt.p
5.2.1.8	Job Browse	rqjiq.p
5.2.1.13	Horizontal Approver Maintenance	rqahmt.p

Menu Number	Description	Program Name
5.2.1.14	Vertical Approver Maintenance	rqavmt.p
5.2.1.15	Job Approver Maintenance	rqajmt.p
5.2.1.16	Product Line Approver Maint	rqaplmt.p
5.2.1.17	Approver Report	rqarp.p
5.2.1.20	Buyer Maintenance	rqbmt.p
5.2.1.24	Requisition Control File	rqpm.p

Figure 15.1 summarizes the tasks required to set up GRS. These tasks are described in detail in the following sections.

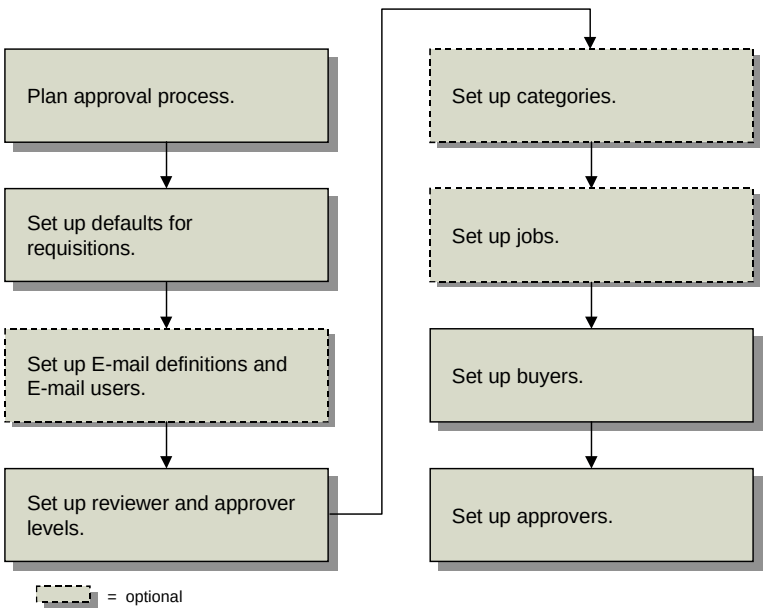


Fig. 15.1
GRS Setup Tasks

Planning the Approval Process

Before starting to set up GRS, you should consider the way you want the approval process for your company to flow. Use the following questions as a guideline:

- Will you operate more efficiently if GRS generates E-mail messages to the people involved in the approval cycle?
- Should only the next approver be notified of approval-related events, or would a wider distribution be better?
- Are most of your requisitions approved by department heads or supervisors?
- Are the types of purchases you make monitored across departments by certain reviewers, regardless of which department generates the requisition?
- Do you want the buyer to be able to change the cost specified on a requisition when placing a purchase order? And, if so, do you want to set parameters to identify a cost variance as out of tolerance?

System-Generated E-Mail

One element to consider in the planning process is whether your company wants to use the automated E-mail notification features of GRS. If so, you must establish a record in E-Mail Definition Maintenance (36.4.20) for each E-mail system your company uses. You must also enter E-mail addresses for all GRS users in User Maintenance (36.3.18).

If you decide to use automatic E-mail, you can send E-mail in regular or extended mode. Table 15.2 summarizes GRS events and the resulting E-mail recipients for these modes.

Table 15.2
E-Mail Modes

GRS event	Regular mode notifies:	Extended mode also notifies:
Route requisition	New route-to	Requested by, end user
Reverse route requisition	Current route-to	Requested by, end user
Modify or delete requisition	Current route-to	Requested by, end user
Mark out of tolerance	Requested by, end user	

A system-generated E-mail message includes the following:

- Action
- Requisition number
- Requisition date
- Need date
- Due date
- Requested by
- Entered by
- End user
- Route to
- Reason
- Remarks
- Approval status
- Database
- Extended cost total
- Maximum extended cost total
- Approval comments (up to 15 lines)

Approver Types

Before you begin using the setup programs, consider how your company manages requisition approvals. GRS provides the flexibility to set up approvers based on the way your company wants to manage the approval process. You can set up four types of approvers—horizontal, vertical, job, and product line—using approver maintenance programs (5.2.1.13 through 5.2.1.16).

See “Setting Up Approvers” on page 175.

Once you have decided which types of approvers are best suited to the way you want to use GRS, you are ready to set up levels, categories, and jobs—the building blocks used to define approvers.

Note Because GRS is flexible, you can change or add to the approver profiles at any time. For example, when you go through the initial setup process, your company might not need to use job approvers. However, later it may be convenient to isolate some purchase approval authority to a specific project. You can then define the job and add a job approver for it.

Horizontal Approvers

Approvers can be set up *horizontally* based on the categories of items they are approving. For example, one manager in your company might approve all computer purchases, regardless of which department creates the requisition. You use Category Maintenance (5.2.1.4) to assign a range of accounts to a category such as Computers. You can then require all computer requisitions to be sent to the approver named for this category, regardless of the requestor’s sub-account or department.

See “Setting Up Categories” on page 172.

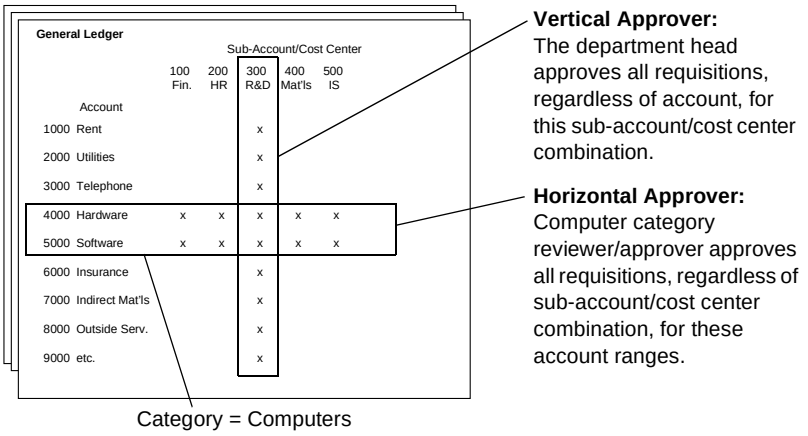
Vertical Approvers

Many companies approve purchases on a group or department basis. Normally, a department manager or supervisor approves requisitions for the department. If this is the way your company works, you can define approvers *vertically* through the organization; the approval levels can be related to combinations of entities, sub-accounts, and cost centers.

Even if you use vertical approvers, you might want to have someone else review specific types of purchases across all organizations to make sure purchases conform to company policy. Then, you can also define categories and set up horizontal approvers with different ranges of account authorizations.

Figure 15.2 is a simplified overview of the difference between horizontal and vertical approvers. It also illustrates how a requisition might require both types of approval.

Fig. 15.2
Vertical versus Horizontal Approvers



Job Approvers

Sometimes, you might need to set up projects or other relatively short-term tasks that do not require long-term approval authority. In this case, you can set up one person—usually the program manager—as a *job* approver.

This approver can authorize requisitions within specified ranges of sub-accounts and cost centers—but only if the requisitions are associated

with a specific job. This way, a single approver can authorize project-specific purchases originated by several departments (multiple sub-accounts).

Product Line Approvers

Product lines group items for reporting, planning, and accounting purposes. A product line approver authorizes inventory purchases for direct materials associated with specific sites and product lines. A person who approves MRP-planned material purchases must be defined as a product line approver.

Setting Up Requisition Defaults

Use the Requisition Control File (5.2.1.24) to establish default values for new requisitions you create with Requisition Maintenance (5.2.3). Setting default values saves time while preparing a requisition, because standard values are already filled in. As needed, the requisition originator can change most of these settings on individual requisitions.

Example Your company does not ordinarily use header comments on its requisitions, so you set the Header Comments field to No in the Requisition Control File. A requestor who needs to add header comments can change the flag to Yes on individual requisitions.

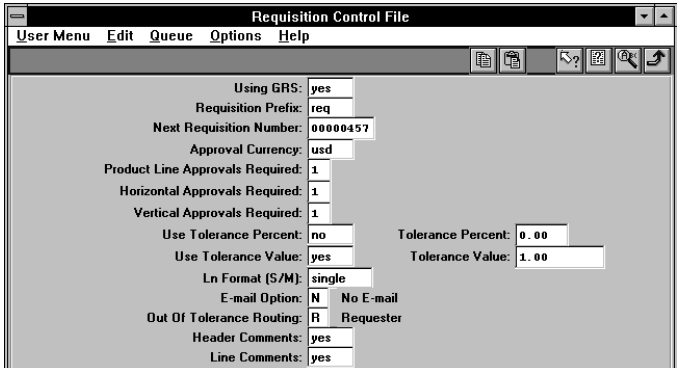


Fig. 15.3
Requisition Control File (5.2.1.24)

Using GRS. Enter Yes to activate GRS. If set to No, the standard requisition programs located on the Purchase Requisitions Menu (5.1)

are available. When Yes, you can no longer use Purchase Requisition Maintenance (5.1.4).

You cannot use requisitions created in Purchase Requisition Maintenance (5.1.4) to create purchase orders with GRS. Only GRS-created requisitions are available for the buyer to copy while using Build PO from Requisitions (5.2.18).

Warning If you activate GRS, create new requisitions in GRS Requisition Maintenance (5.2.3), then reset the Using GRS flag to No, the GRS-created requisitions are not available from any of the 5.1 menu programs. In addition, any POs you have built from GRS requisitions are not accessible from Purchase Order Maintenance (5.7) when GRS is inactive.

Tip
Prefix codes restrict the size of the numeric portion of the ID. The combined length cannot exceed eight characters.

Requisition Prefix. Enter an optional one- to three-character prefix for purchase requisition numbers. For example, you might want to make your purchase requisitions easy to identify by adding a prefix of RQ. When you add a new requisition and leave Requisition Number blank, it is automatically set to the prefix code followed by the next sequential number.

Tip
Start with a large number (such as 10000) so that requisitions sort in sequence.

Next Requisition Number. This field displays the next automatic purchase requisition number for system-assigned numbers. When setting a default starting number, remember that purchase requisition numbers are alphanumeric and sort in that sequence: requisitions 10, 20, and 100 sort in the sequence 10, 100, 20.

Approval Currency. Specify the currency to be used in defining approval levels. The default is the system base currency.

Requisitions can be created in more than one currency. GRS converts other currencies to the approval currency as part of the approval process. A valid exchange rate must exist for this currency during approval.

Product Line Approvals Required. Specify the minimum number of approvers needed to approve direct material requisitions before they can be placed on a purchase order.

Horizontal Approvals Required. Specify the minimum number of category-oriented approvers needed to approve each category within a requisition before it can be placed on a purchase order.

Vertical Approvals Required. Specify the minimum number of organization-oriented approvers needed to approve requisitions before they can be placed on a purchase order. Job approvers are included in this number.

Use Tolerance Percent. Enter Yes if you want the system to check the cost of an item shown on the requisition against the actual cost specified on the purchase order. If this field is Yes and you enter a value in Tolerance Percent, the system compares the requisition maximum cost to the PO cost if the buyer increases the cost after copying the approved line to the PO. If the percentage is exceeded, GRS prompts the buyer to mark the line out of tolerance.

See "Out-of-Tolerance Conditions" on page 210.

Tolerance Percent. Specify the default allowable percentage difference between the maximum cost shown on a requisition line item and the cost entered on the purchase order.

Tip
If you set both Use Tolerance Percent and Use Tolerance Value to Yes, GRS uses the smaller of the two to determine if lines are out of tolerance.

Use Tolerance Value. Enter Yes or No to indicate whether you want to use Tolerance Value. Processing works similarly to Use Tolerance Percent.

Tolerance Value. Specify the default allowable cost difference between the maximum cost shown on a requisition line item and the cost entered on the purchase order. Processing works similarly to Tolerance Percent.

Ln Format (S/M). Specify the default method for entering purchase requisition line items—single-line or multiple-line. Multiple-line mode displays several lines on a single screen, but only allows input or modification of basic data. Single-line mode displays all data fields for one line per screen. This value can be changed at any time on individual requisitions.

E-mail Option. Enter the default E-mail mode. Valid settings are N, R, and E.

- Set to N (none), the default, if you do not want to use the system-generated E-mail features of GRS. Users cannot override this setting on individual requisitions.
- Set to R (regular) or E (extended) to make this the default E-mail mode for all requisitions. Users can change the default setting on individual requisitions.

See "System-Generated E-Mail" on page 164.

Tip
This field is only used when Use Tolerance Percent or Use Tolerance Value is Yes.

Out of Tolerance Routing. Enter the code indicating the default routing for requisitions when the buyer chooses to route an out-of-tolerance line:

- R (requestor)
- L (last approver)
- F (first approver)
- N (none)

If you set the field to None, the Route To field on the out-of-tolerance routing screen defaults to blank.

Header Comments. Enter Yes if comments are normally entered on each requisition header. Information associated with the header usually applies to the entire requisition and prints at the top of the requisition. The flag can be changed manually on a requisition. If you do not normally use header comments, set this flag to No to avoid being prompted each time with the comment entry screen.

Line Comments. Enter Yes if comments are normally entered on each requisition line. The flag can be changed manually on a requisition. If you normally do not use comments, set this flag to No to avoid being prompted each time with the comment entry screen.

Setting Up Automated E-Mail (Optional)

See “System-Generated E-Mail” on page 164.

If you want GRS to send automatic E-mail notifications during the requisition approval cycle, use E-Mail Definition Maintenance (36.4.20) to establish information about how GRS communicates with your E-mail system. You must also add E-mail information for each user in User Maintenance (36.3.18).

These functions are described in *User Guide Volume 9: Manager Functions*.

Defining Approval Levels

An approval level within GRS is defined as the maximum amount of approval currency a person assigned that level is authorized to approve. You define approval levels in Approval Level Maintenance (5.2.1.1). To view existing approval levels, use Approval Level Browse (5.2.1.2).

See “Approval Level Browse” on page 214.

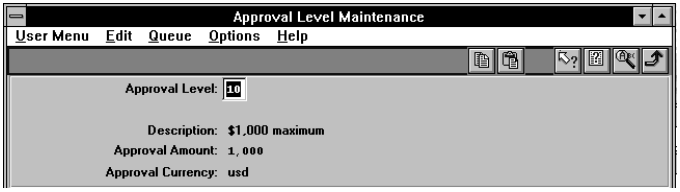


Fig. 15.4
Approval Level Maintenance (5.2.1.1)

Approval Level. Enter a two-digit number defining a level. At initial system setup, you should consider establishing these in increments of 5 or 10 so that you can later insert intermediate levels. These codes are also used in the Review Level field in approver maintenance programs (5.2.1.13 through 5.2.1.16).

See “Setting Up Approvers” on page 175.

Approval Level 00 is reserved by the system and indicates that a person is not an approver or reviewer. Individuals with this level are not included when reports are generated. Although you can route requisitions to zero-level approvers, their approvals do not count toward the number of required approvals specified in the Requisition Control File (5.2.1.24).

Description. Optionally enter a text description of the approval level. This description appears on various inquiries and reports.

Approval Amount. Enter he amount a person assigned this level is authorized to approve or required to review. This amount is expressed in the approval currency defined in the Requisition Control File.

This amount can represent either a maximum or minimum, depending on where it is used.

- In the approver maintenance programs, Approval Level is the *maximum* authorized level. When Approval Required is Yes in one of these programs, the associated individual must approve all requisitions *up to* this amount.
- But when Review Required is Yes, Review Level is a *minimum*—this individual must review all requisitions *above* this amount.

Approval Currency. The system displays the currency defined in the Requisition Control File (5.2.1.24). You cannot update this field here.

Setting Up Categories

A category is a logical grouping of accounts related to specific approvers. For example, you might have one person in your organization review all computer purchases.

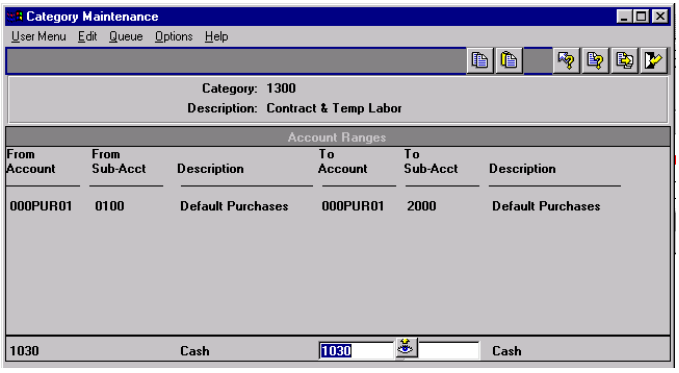
Depending on the way your company wants to manage the requisition approval process, you can establish a set of categories with Category Maintenance (5.2.1.4). The center frame displays ranges of accounts and sub-accounts already associated with the category; use the bottom frame to add, modify, or delete records.

The same account numbers can be included in more than one category. If Verify GL Accounts is Yes in the System/Account Control File, each account and sub-account you enter must be valid on its own and in combination with each other.

See page 214.

Use Category Report (5.2.1.5) to view descriptions and ranges of accounts associated with existing categories.

Fig. 15.5
Category Maintenance (5.2.1.4)



Category. Enter a one- to four-character alphanumeric code identifying a category.

Description. Enter a brief description of the items in the category, such as computer equipment or communications. This description appears on various inquiries and reports.

From Account. Specify the beginning of a range of accounts to be included in this category. The same account numbers can be included in more than one category.

From Sub-Acct. Specify the beginning of a range of sub-accounts to be included in this category. Leave blank to include all sub-accounts up to the value specified in To Sub-Acct. This field can be left blank.

To Account. Specify the end of a range of accounts to be included in this category. To Account defaults to same value as From Account. Leave the default if you want only one account included. This field cannot be left blank.

To Sub-Acct. Specify the end of a range of sub-accounts to be included in this category. To Sub-Acct defaults to same value as From Sub-Acct. Leave the default if you want only one sub-account included. This field can be left blank.

Setting Up Jobs

A job is a relatively short-term set of tasks, such as a limited-duration project. People from many different sub-accounts or cost centers often issue requisitions for the same job. To keep purchase accountability with one person—usually the project manager—you can set up a job code. Use Job Maintenance (5.2.1.7) to define jobs. Job Browse (5.2.1.8) lets you view existing job definitions.

See “Job Browse” on page 215.

Note While job and project are used for the same type of activity, projects are actually a component of an account and track expenses in the GL. Job is used only to determine an approver for a requisition.

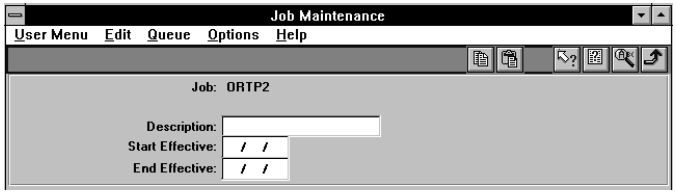


Fig. 15.6 Job Maintenance (5.2.1.7)

Job. Specify an alphanumeric code identifying a job. When an approved requisition line is copied to a purchase order, this information is added to the Sales/Job field on the PO line. The job code is not validated against any system data. Consider establishing

naming standards for your company to make the codes easy to recognize on reports and inquiries.

Description. Enter a short description of the project or activity for this job. This description appears on various inquiries and reports.

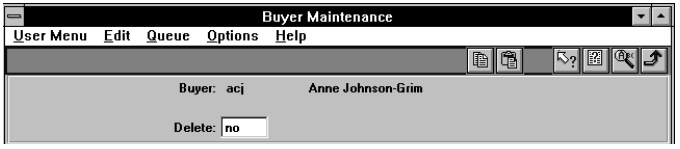
Start Effective. Specify the first date this job can be used on a requisition. The default is blank. Effective dates are optional. If you leave the date fields blank, the job is effective indefinitely.

End Effective. Specify the last date this job can be used on a requisition. The default is blank.

Setting Up Buyers

The buyer—an individual who places purchase orders with suppliers—is the last person in the requisition process. After a requisition has passed through final approval, it is routed to the buyer, who references approved requisition line items on purchase orders. Use Buyer Maintenance (5.2.1.20) to add and delete buyers.

Fig. 15.7
Buyer Maintenance (5.2.1.20)



Buyer. Specify the ID of a user previously defined in User Maintenance that is designated as a buyer. During the approval process, the buyer named on the requisition is notified by system-generated E-mail when the requisition is approved and ready to be moved onto a purchase order.

Delete. Enter Yes to remove the user's status as a buyer. Default is No; set to Yes to delete this person from the buyer master.

Important If you use generalized codes for the Buyer field (po_buyer) in Purchase Order Maintenance (5.7), you must first use Generalized Codes Maintenance (36.2.13) to establish any user you want to define in Buyer Maintenance as a valid entry. Otherwise, an error displays in Buyer Maintenance.

Setting Up Approvers

As discussed in the section on planning, GRS provides four programs for defining the approvers most appropriate to your company. These programs use combinations of the level, category, and job data you established earlier in the setup process, along with entity, sub-account, and cost center data, to define an approver profile.

See “Planning the Approval Process” on page 164.

Use Approver Report (5.2.1.17) to view information on existing approvers.

See “Approver Report” on page 215.

This section describes the four GRS approver maintenance programs. These programs include many common fields. Descriptions of these fields are provided only once and are not repeated for each program.

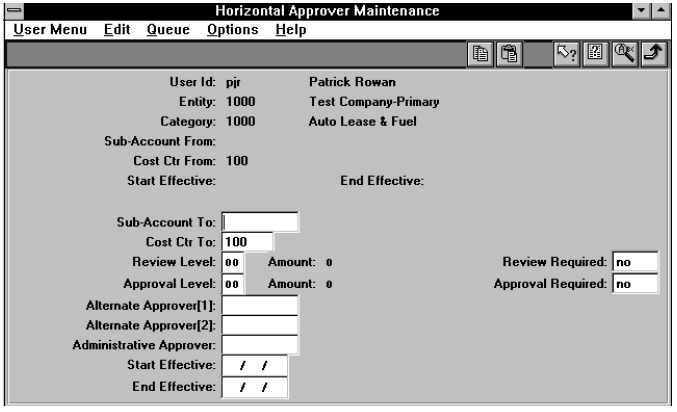


Fig. 15.8 Horizontal Approver Maintenance (5.2.1.13)

User Id. Enter the ID of an individual assigned an expenditure authorization limit within a defined set of GL account, sub-account, cost center, and entity ranges. This can also be a reviewer—a person who may not have a high enough level to approve a purchase, but still reviews it from a policy or compliance standpoint.

Tip
When you enter a valid value, the system displays the full description of the selected entry.

Entity. Enter the entity code for which an approver can authorize requisitions. Entity codes are used to process the GL transactions of a specific part of your company—an office or region, for example. Leave blank if this approver can authorize requisitions for all entities.

Category. Enter the alphanumeric code for the selected category. This field applies to Horizontal Approver Maintenance only.

See page 172.

Tip
If Verify GL Accounts is Yes in the System/ Account Control File (36.1), each account component must be valid on its own and in combination with other components.

Sub-Account From. Specify the beginning of the range of sub-accounts for which this approver is authorized to approve requisitions. If there is a value in Sub-Account To, this field cannot be blank.

Sub-Account To. Specify the end of the sub-account approval range. Defaults to value entered in Sub-Account From field. If there is a value in Sub-Account From, this field cannot be blank.

Cost Ctr From. Enter the code beginning the range of cost centers for which this approver is authorized to approve requisitions. If there is a value in Cost Ctr To, this field cannot be blank.

Cost Ctr To. Enter the ending code for the cost center approval range. Defaults to value entered in Cost Ctr From field. If there is a value in Cost Ctr From, this field cannot be blank.

Review Level. Enter the two-digit code representing the minimum amount of specified currency an individual is required to review on a requisition. This field is used with the Review Required field to indicate that this person must review all requisitions at or above the level shown here—even if the person's approval authority is insufficient to make final approval.

Review Required. Enter Yes if all requisitions at or above the level specified in Review Level must be reviewed by this individual. Default is No. This applies only to requisitions requiring this person's approval type—horizontal, vertical, job, or product line.

Approval Level. Enter the two-digit code representing the maximum amount of specified currency an individual is authorized to approve on a requisition.

The way GRS uses this level varies by the type of approver. For example, for vertical and job approvers, the system determines approvers based on the total maximum cost of the requisition. This is because all the line items use the same sub-account and cost center combination. For horizontal approvers, GRS selects approvers based on the total maximum cost of all the line items for each category included on the requisition.

Approval Required. Enter Yes if all requisitions at or below the level specified in Approval Level must be approved by this individual.

Default is No. This applies only to requisitions requiring this person's approval type—horizontal, vertical, job, or product line.

Alternate Approver [1], Alternate Approver [2]. Enter the ID of another approver with the same or greater expenditure authorization limit who is allowed to authorize requisitions on behalf of a regular approver when that person is not available. You can designate up to two alternate approvers.

Tip
An alternate does not have to be the same type of approver—just the same level.

Administrative Approver. Enter the ID of an individual authorized to approve purchase requisitions on behalf of this approver. The person specified does not need to be assigned an approval level. Completing this field allows routine requisition activities to continue during a manager's absence.

Start Effective. Enter the first date this approver is authorized to approve requisitions. The default is blank. Effective dates are optional; you can use start and end dates to assign approvers for short-term tasks or as temporary alternates.

End Effective. Enter the last date this approver is authorized to approve requisitions. The default is blank; effective period is open-ended.

Similar to Horizontal Approver Maintenance; does not include Category field

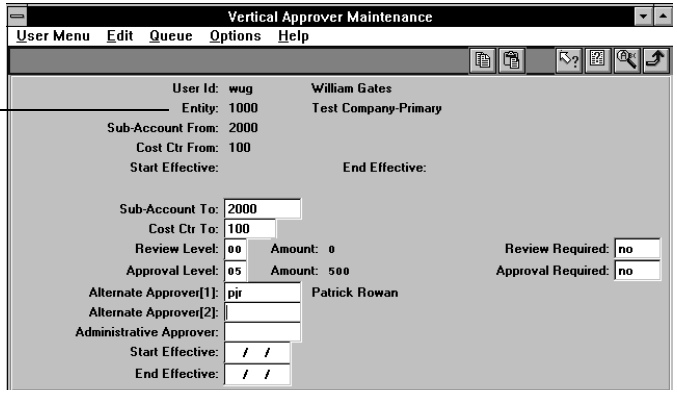
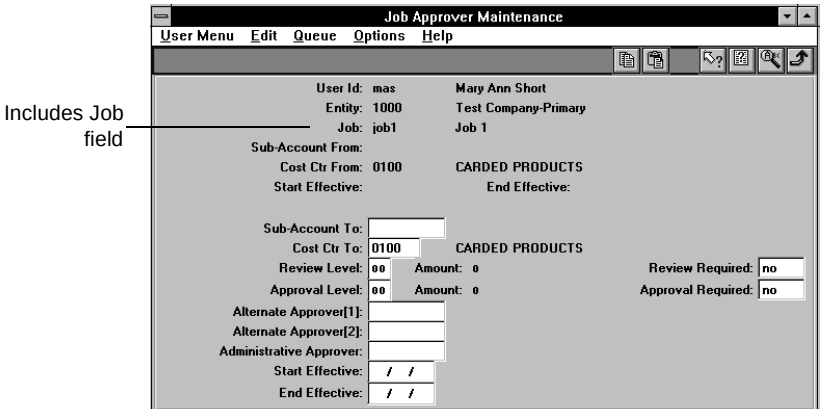


Fig. 15.9
Vertical Approver Maintenance (5.2.1.14)

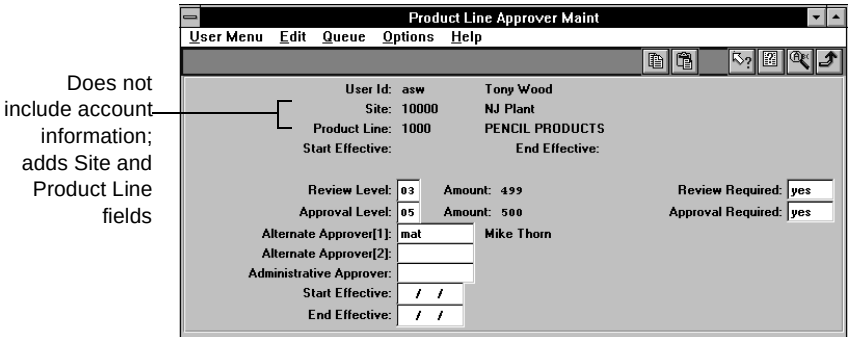
Fig. 15.10
Job Approver Maintenance (5.2.1.15)



See “Setting Up Jobs” on page 173.

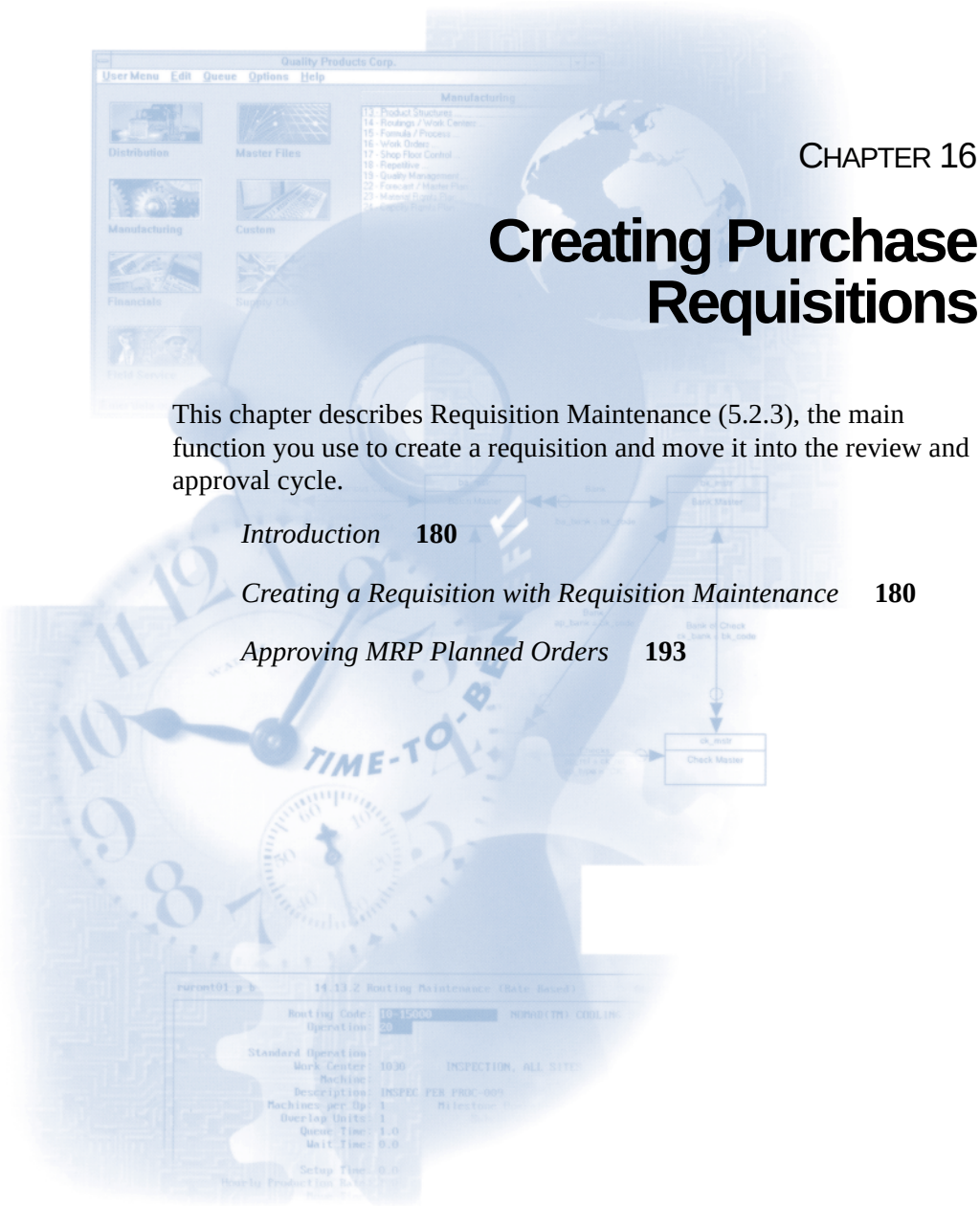
Job. The job code assigned to this project or activity. This field applies to Job Approver Maintenance only.

Fig. 15.11
Product Line Approver Maintenance (5.2.1.16)



Site. Enter the site code for which this person is authorized to approve requisitions for inventory items. This field applies to Product Line Approver Maintenance only.

Product Line. Enter the code of the product line for which this person can approve requisitions. This field applies to Product Line Approver Maintenance only.



CHAPTER 16

Creating Purchase Requisitions

This chapter describes Requisition Maintenance (5.2.3), the main function you use to create a requisition and move it into the review and approval cycle.

Introduction **180**

Creating a Requisition with Requisition Maintenance **180**

Approving MRP Planned Orders **193**

Introduction

Purchase requisitions come from two sources:

- Manually entered requisitions built in Requisition Maintenance (5.2.3)
- Requisitions created by approving MRP planned orders with Planned Purchase Order Approval (23.11)

This chapter describes the structure of a requisition and discusses how to create a requisition using both of these sources.

Creating a Requisition with Requisition Maintenance

With Requisition Maintenance (5.2.3), you build a requisition in three sections: the header, the line-item detail, and the trailer, as shown in Figure 16.1.

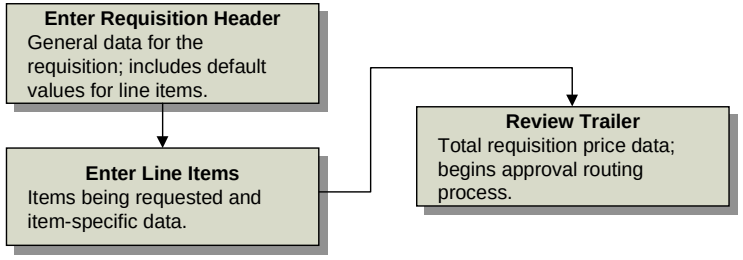


Fig. 16.1
Requisition Entry Flow

This section provides a field-by-field description of each part of the requisition.

Creating the Purchase Requisition Header

Data items you enter in the requisition header become defaults for each line of the purchase requisition. Header information is divided between two frames. You enter most of the data in the first frame; the second includes optional detailed supplier information.

When you begin entering detailed line-item data, you can modify some of these entries on individual lines.

Note Some fields are *required*; valid data must be entered in them or the system does not create the requisition. Other fields are *optional*; they do not require data for the system to create the requisition. Information in optional fields, such as Comments, can be used as follows:

- Explain the purpose of the requisition.
- When applicable, describe why the item being requested does not follow standards.
- Provide other information that might be needed during the approval or purchasing process.

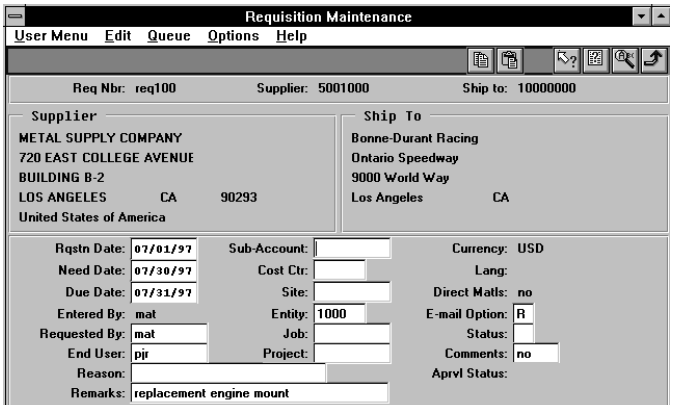


Fig. 16.2
Requisition Maintenance (5.2.3)

Req Nbr. Required. A unique control number must be assigned to each purchase requisition. You can enter a number of your own or let the system assign a number based on settings in the Requisition Control File (5.2.1.24). On a new requisition, leave this field blank and press Enter for a system-assigned number. To modify an existing requisition, enter its number.

Supplier. Optional. If you want to specify a supplier, enter the unique address code assigned to a supplier. If the supplier has not yet been defined in Supplier Maintenance (2.3.1), enter the supplier name, address, phone number, and name of contact in header comments.

If you do not specify a supplier, an approver or the buyer will complete this field during the approval process. If you enter a supplier code in the header, that supplier becomes the default for the entire requisition; you can change it at the line-item level.

Ship To. Optional. Enter the address to which the supplier is to send the goods. The default Ship To is set in the Purchasing Control File (5.24). If the default is not correct for this order, enter another Ship-To address.

Requisition Date. Required. Enter the date the requisition is created. The default is the current system date.

Need Date. Required. Enter the date the items are required at the end-user's site. Default is the system date. Need date is used on the purchase order generated from the requisition. It can be later than the due date to allow time for such activities as inspection or transportation from the receiving area to the end user. This date prints on most reports and inquiries. The need date can be changed for each line item. It cannot be earlier than the current date.

Due Date. Required. Enter the date the items are due to be received at the end user's site. Default is the system date. The system uses this date as the default for all line items on this requisition. However, you can change the due date when entering line-item data. It cannot be earlier than the current date.

Entered By. This reference field displays the log-in ID of the individual entering the requisition.

Requested By. Required. Enter the ID of the person requesting the items; validated against the user master. The system default is the log-in ID of the person completing the requisition. If you are using system-generated E-mail in the extended mode, the requestor receives requisition status E-mail.

End User. Required. Enter the ID of the person for whom the requisitioned items are intended; validated against the user master. If you are using system-generated E-mail in the extended mode, the end user receives requisition status E-mail.

Reason. Optional. Enter a brief explanation of the requisition for the approvers or purchase reviewers who authorize or deny the request. This field does not appear on the purchase order.

Remarks. Optional. Enter any remarks related to the requisition or to the supplier. This information applies to the entire requisition. It appears on system-generated E-mail messages and is also printed on

the purchase order. When a supplier is specified in the header, and remarks for that supplier have been added in Supplier Maintenance (2.3.1), those remarks display here.

Sub-Account. Enter the alphanumeric code that identifies the department to be charged with the cost. May be required before final approval, depending on the general ledger (GL) setup of your company.

Cost Center. Enter the alphanumeric code designating the cost center for which the items are being purchased. May be required before final approval, depending on the GL setup of your company.

Site. Required. Enter the site from which the order is being placed. This becomes the default for the line items and can be changed at that level.

Entity. Required. Enter the entity code for the requisition. Entity codes are used to process the GL transactions of a specific part of your company—an office or region, for example.

Job. Optional. Enter the eight-digit alphanumeric code used to track expenses for a specific event or activity. If the items on this requisition are for a specific job, enter the job name. Otherwise, leave it blank.

The system uses jobs to determine appropriate reviewers and approvers for requisitions. When an approved requisition is copied onto a purchase order, the entry in this field is copied into the Sales/Job field.

Project. Optional. Enter the eight-digit alphanumeric code used to track expenses for a specific event or activity to a GL account. Project is not the same as the Job field, which is used to assign approval authority for requisitions and is not tied to the general ledger.

If Verify GL Accounts is Yes in the System/Account Control File (36.1), the system verifies that the project exists and is active and that it is valid with the other account components. When an approved requisition is copied onto a purchase order, the entry in this field is copied into the Project field.

Currency. Required. Enter the currency in which the purchase order will be created. Defaults from the supplier, if specified; otherwise, from the base currency in the System/Account Control File.

Tip
Define exchange rates in Exchange Rate Maintenance (26.4).

Requisitions can be created using any currency defined in Currency Maintenance (26.1) with a valid exchange rate. Exchange rates are set at the time the requisition is created, then recalculated when the buyer enters the PO price.

See "Out-of-Tolerance Conditions" on page 210.

Fluctuations in exchange rates can create an out-of-tolerance condition; that is, the purchase price exceeds the maximum cost shown on the requisition line item by more than the out-of-tolerance parameters set in the Requisition Control File (5.2.1.24).

Language. Optional. Enter a language code if you want to use a language other than the default language for a requisition. A master comment, created in Master Comment Maintenance (1.12), can be stored in multiple languages using the same master reference code. The system uses language code to select comments in the appropriate language.

Direct Materials. Required. Specify whether this requisition applies to direct (MRP) materials items. The field defaults to No for all maintenance, repair, and operating supplies (MRO) purchases. GRS uses this field to determine whether a product line approval is required.

See "System-Generated E-Mail" on page 164.

E-Mail Option. Enter an optional E-mail mode: None, Regular, or Extended. This setting defaults from the Requisition Control File. If the system administrator has set this field to None, GRS is not using your company E-mail system.

If it is set to regular or extended, you can specify the extent to which you want GRS to generate E-mail messages during the approval process. The regular mode (R) sends a minimum number of messages—mainly to the user to whom the requisition is being routed. In the extended mode (E), status messages are sent to the requestor and end user.

Status. Optional. Enter the code identifying the status of the requisition. The system uses this code to determine whether a requisition is to be included on some reports and inquiries:

- Blank indicates the requisition is open.

- X indicates the requisition is canceled. No further activity can be entered against a requisition with this status.

If a requisition or line item has been canceled, it can be reopened by changing the status.

Comments. Optional. Indicate whether you want to add header comments. The default is set in the Header Comments field of the Requisition Control File. Enter Yes if you want to enter additional information for approvers, purchase reviewers, and buyers to read when processing the requisition. Use comments for such things as new supplier data, item specifications, or special packaging or delivery requirements.

Aprvl Status. This reference field indicates whether the entire requisition is approved, not approved, or out of tolerance. At the header level, this field does not change to Approved until all lines have been approved. If at least one line item is out of tolerance, this field reads Out of Tolerance. If an out-of-tolerance line is changed on an approved requisition, this field reverts to Unapproved.

When you have completed the first frame of the header, press Go; the second frame displays.



Fig. 16.3 Requisition Maintenance, Second Header Frame

Discount %. Optional. Enter the discount percentage the supplier is allowing for the requisitioned items. This discount percentage is the default for line items; you can change the discount at the line-item level if it varies by item. If a supplier is specified, this defaults from the supplier master.

Tip
These fields are validated against the Price Table Required and Disc Table Required fields in the Purchasing Control File (5.24).

Price Tbl. Optional. Specify the price table GRS uses to find the item's price. If a supplier is specified, this defaults from the supplier master. The entry in this field becomes the default value for the line items.

Disc Tbl. Optional. Specify the discount table GRS uses to look up the discount associated with this item. If a supplier is specified, this defaults from the supplier master. The entry in this field becomes the default value for the line items.

Entering Line Items

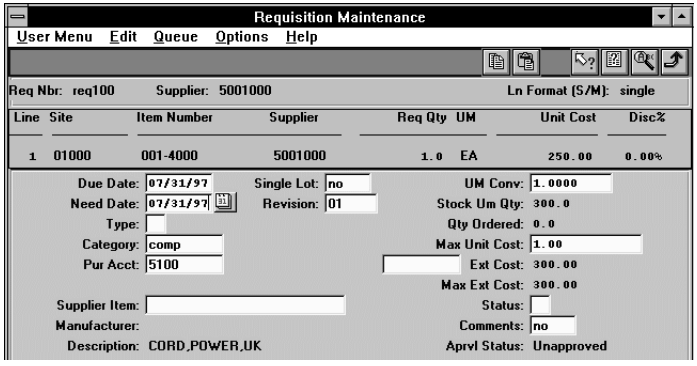
Tip
You can alternate between Single and Multi when you are entering line items.

You can enter line-item data in two modes—single-line or multiple-line—based on the setting of the Ln Format (S/M) field in the Requisition Control File (5.2.1.24).

In multiple-line mode, you can enter just the basic data for from 8 to 16 items—depending on your computer system—on a single screen. This basic data includes supplier data, site, item number, quantity, unit of measure, unit cost, and discount percentage. All other information defaults from the header.

Note If you need to change any of the other header information for a line item, you must use single-line mode, which displays detailed data for only one line on each screen. To change from multiple- to single-line mode, press End until the cursor appears in the Ln Format field; then enter S and press Go.

Fig. 16.4
Requisition Maintenance, Requisition Line Frame



Line. Required. Enter a unique identifier for each line of the requisition. Press Enter to create a new line number. The line number is used to identify individual requisition lines during the review, approval, and purchase order process. To view or modify an existing line item, enter the number of the line or use the arrow keys to scroll through the list of line items.

Site. This value defaults from the header, but can be changed for each line item.

Item Number. Optional. Enter the catalog or stock identifier used for the inventory system. For memo item purchases, enter a brief description of the item being purchased. For other purchases, enter the item number from the item master. You can enter additional information in line-item comments, if needed.

Tip
Memo items are not defined in Item Master Maintenance.

Supplier. This value defaults from the header, but can be changed for each line item. When you advance to this field, a pop-up window prompts you for an optional price table and discount table.



Fig. 16.5
Requisition Maintenance, Supplier Detail Frame

Pr Tbl. Optional. This value defaults from the header, but can be changed for each line item.

Disc Tbl. Optional. This value defaults from the header, but can be changed for each line item.

Req Qty. Required. Enter the quantity of the item needed.

UM. Optional. Enter the unit of measure in which goods or services are priced, ordered, and received; for example, EA (each), BX (box), DZ (dozen), LT (lot), or HR (hour). UM is used in the search for a price on the associated price list or discount table.

Unit Cost. Optional. Enter the price from the associated price list or discount table. The system uses this information to calculate the extended cost of the line item.

Disc %. This value defaults from the header, but can be changed for each line item.

Due Date. This value defaults from the header, but can be changed for each line item.

Need Date. This value defaults from the header, but can be changed for each line item.

Type. Optional. The type of purchase. If you enter an inventory item code in the Item field, Type defaults to blank. Non-inventory items show M (memo) in this field. Valid item codes with blank types are visible to MRP as a source of supply. To identify an inventory item that should not be placed in inventory when received—for example, an extra quantity ordered for a special event—enter M in this field.

Category. Optional. Enter the code specifying a logical grouping of related items by GL account number. Category is used to determine the type of approval required for the item. If you enter an account code in Pur Account or if one defaults from the supplier, the system attempts to determine the category. You can override this entry.

Pur Acct. Required before final approval. Enter the GL account code used to record purchases. The Purchases account is a combination of the GL account, sub-account, cost center, and project. It defaults from the Purchases account in the supplier master when a supplier is specified. The entry in this field depends on the way your company's general ledger is set up.

Sub-Account. This value defaults from the header, but can be changed for each line item.

Cost Ctr. This reference field displays the cost center that was specified in the header, if any.

Project. This value defaults from the header, but can be changed for each line item.

Supplier Part. Optional. If the item has been defined in Supplier Item Maintenance (1.19), the system displays the supplier's item number in this field so it can be referenced on the purchase order.

Manufacturer. Reference field. If the supplier item master includes a manufacturer, it displays in this field.

Description. Optional. If you enter an inventory line item, Description defaults from the item master. If you enter a non-inventory item, “Item Not In Inventory” displays. Clear the field and enter a brief description of the item. This description prints on formal documents such as POs.

Single Lot. Optional. Specify whether each receipt requires a unique lot number. This information is copied onto the purchase order with the approved line item. It defaults from the Compliance Control File (1.22.24).

See *User Guide Volume 6: Master Files.*

Revision. Optional. Enter the code identifying the engineering revision of this item. This code defaults from the item master. It is copied with the approved line item onto the purchase order. The code can be changed to indicate that the required revision is not the same as the one defined in Item Master Maintenance.

UM Conv. Optional. Enter the factor used to calculate the equivalent amount or value from purchase unit to stock unit of measure (default is 1). This value defaults from the value defined in Unit of Measure Maintenance (1.13), if available.

This field allows for correct conversion of both the items and their currency value. For example, your company might control pencils as individual items; however, the supplier might sell them only by boxes containing 24 pencils. In that case, set the value of UM Conv to 24.

Stock Um Qty. This reference field displays the requisition quantity converted from the supplier’s unit of measure to the unit of measure in which your company stocks this item.

Qty Ordered. This reference field displays the actual quantity ordered. The default is zero. When all or part of a requisition line-item quantity is placed on a purchase order, that quantity is reflected in this field.

Max Unit Cost. Required. This field allows you to specify a higher purchase cost than entered in the Unit Cost field. The default is Unit Cost regardless of the discount percentage, but you can change it manually. The (optionally) higher cost by line item is used to calculate the total cost for which the requisition is approved. The system uses this cost when calculating whether the requisition is

within tolerance parameters set in the Requisition Control File (5.2.1.24).

Ext Cost. This reference field displays a calculation using the quantity ordered, unit cost, and discount to determine total extended cost.

Max Ext Cost. This reference field displays a calculation using the quantity ordered and maximum unit cost to determine total maximum extended cost.

Status. Optional. This value identifies the status of the individual requisition line.

- Blank indicates the line item is open.
- X indicates the line item is canceled. No further activity can be entered against a line item with this status.

If a line item has been canceled, it can be reopened by changing the status. When a requisition is canceled at the header level, X displays on all line items.

Comments. Optional. Indicate whether you want to enter comments for this line. This is not the same field as header comments; you can add different comments for each line item if you choose.

- Enter Yes if you want to enter additional information about this line item—for example, item specifications or special packaging or delivery requirements.
- Enter No if you do not want to enter comments.

The system maintains a minimum audit trail of changes to purchase requisitions, so you can use comments to record changes to line items that might be important later for informational or tracking purposes. Line item comments can be copied onto the PO in Build PO from Requisitions (5.2.18); the buyer can then choose to print them on the PO.

Completing the Trailer

In the final section of Requisition Maintenance, the trailer, you decide whether the requisition is ready to enter the approval process. The first trailer screen displays the total extended cost and maximum extended cost in both the requisition currency (left column) and the approval currency (right column).

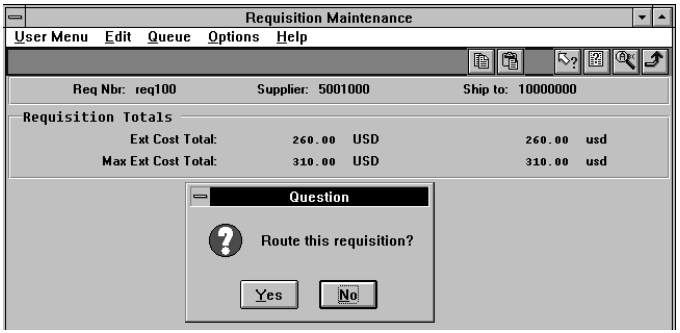


Fig. 16.6 Requisition Maintenance, Summary Frame

If you are satisfied that the requisition is correct, choose Yes. A routing frame lets you send the requisition into the approval process.

If you choose not to route the requisition at this time—for example, if you want to wait for additional information on a line item—then exit without adding any routing information. The requisition remains in your queue. You can return to it later by entering its number on the first screen of Requisition Maintenance, or you can use Requisition Routing Maintenance (5.2.14) if the requisition is ready to route. The approval process does not start until you route the requisition to the first approver or reviewer.

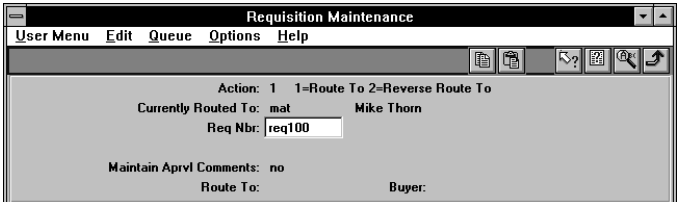


Fig. 16.7 Requisition Maintenance, Routing Frame

Action. Specify the routing action you want to take. For new requisitions entering the approval process, select 1 to route the requisition to the first approver.

See “Requisition Routing Maintenance” on page 200.

Currently Routed To. Enter the code for the user in whose queue the requisition resides. You can change this only if you are an alternate or administrative approver for the current routed-to user.

Req Nbr. Enter the requisition you want to route. This defaults from the requisition you have just completed.

Maintain Aprvl Comments. Enter Yes if you want to add comments for the next person on the routing to read.

Route To. Enter the code for the first person in the approval process. Use the look-up browse to view the list of appropriate approvers determined by the system based on sub-account, cost center, category, and job information. On MRP orders, this is a product-line approver.

Buyer. Enter the employee responsible for issuing a purchase order for approved requisition items. You can leave this field blank. However, a purchase reviewer or approver must complete the field before final approval.

If your company uses the system-generated E-mail feature, the buyer is informed by E-mail when the requisition has been approved. If a default supplier was entered for the requisition, and if a buyer was defined for that supplier in Supplier Maintenance (2.3.1), that buyer's user ID appears in this field. It can be changed to any valid buyer.

When you have completed the routing frame and added approval comments (if any), you are prompted to confirm your actions. This routes the requisition into the approval process.

Approving MRP Planned Orders

You can also create a purchase requisition by approving MRP planned orders using Planned Purchase Order Approval (23.11).

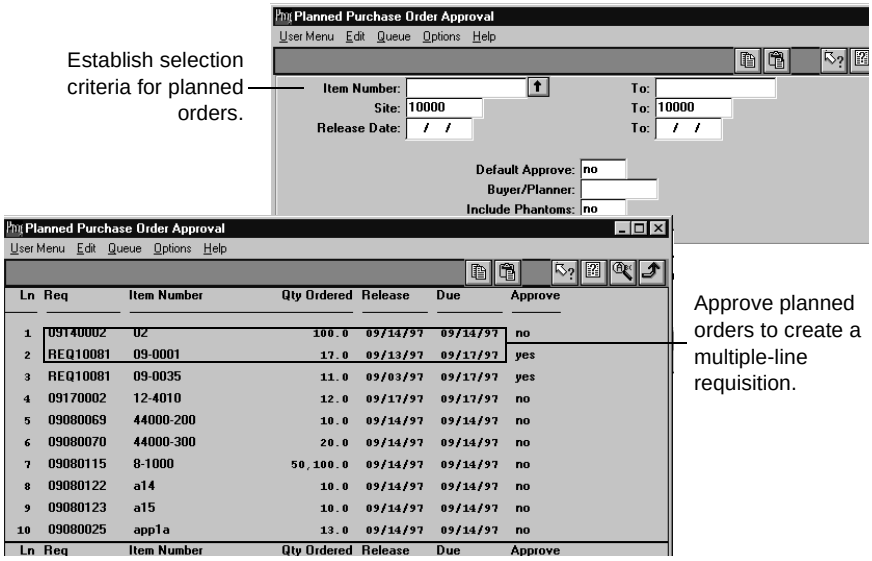
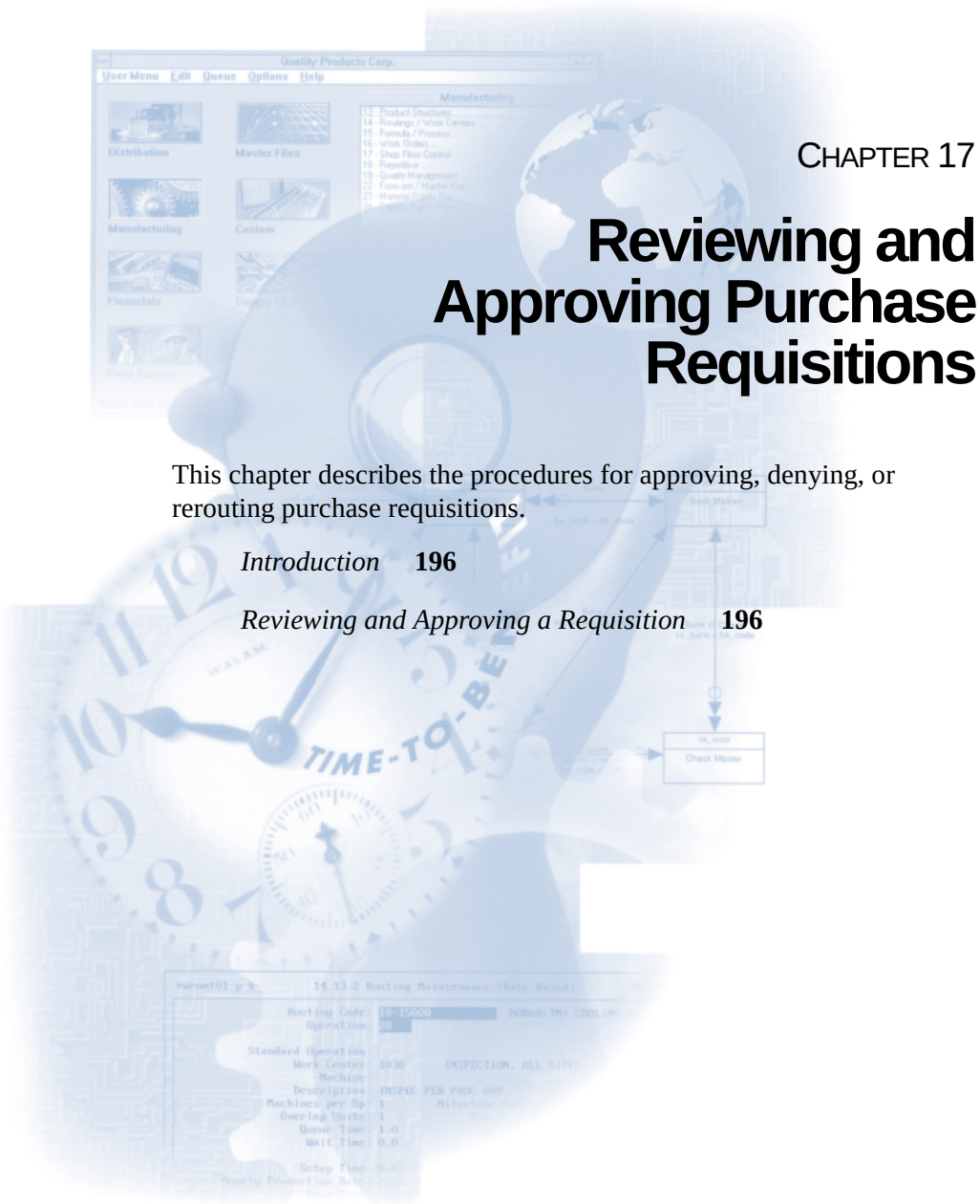


Fig. 16.8 Planned Purchase Order Approval (23.11)

In the first screen of Planned Purchase Order Approval, you set selection criteria for MRP planned orders. You then set the Approve field to Yes or No for each planned order, as appropriate. The system creates one multiple-line requisition that includes all the approved planned orders. The new requisition number appears on all approved lines.

Use Requisition Maintenance (5.2.3) to make any required changes to the new requisition before beginning the approval process.



CHAPTER 17

Reviewing and Approving Purchase Requisitions

This chapter describes the procedures for approving, denying, or rerouting purchase requisitions.

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Reviewing and Approving a Requisition **196**

Introduction

As a requisition reviewer or approver, you are informed by system-generated E-mail—assuming your company is using that feature—that a requisition is awaiting action. You use Requisition Approval Maintenance (5.2.13) to review the requisition and then approve, deny, or reroute it. If you find incorrect or incomplete information, you can go from the approval screen directly into Requisition Maintenance (5.2.3) to make corrections and additions.

When you have completed your review, if you have a high enough approval level, you can approve the requisition for release and forward it to Purchasing. Or you can deny the requisition, reroute it to the originator for additional work, or reroute it to another approver.

This chapter describes the procedures used for routing and approving requisitions.

Reviewing and Approving a Requisition

Requisition Approval Maintenance (5.2.13) is used to review and approve or deny a requisition. It also provides tools for viewing and modifying the requisition. When you have completed your approval, you use the program to forward the requisition to the next person in the approval process; additional routing options are provided by Requisition Routing Maintenance. (5.2.14)

Requisition Approval Maintenance

See “Approver’s Open Req. Inquiry” on page 221.

When a requisition is ready to be reviewed, the originator begins the approval process as described in Chapter 16. If your company uses automated E-mail, the first person in the approval process receives a message that a requisition is awaiting action. The approver then uses Requisition Approval Maintenance (5.2.13) to look at the requisition. To see a list of requisitions waiting for an approver’s disposition, use Approver’s Open Req. Inquiry (5.2.16).

Use the View Queue/Dispositioned field in Requisition Approval Maintenance to select a requisition from the queue of items awaiting your attention.

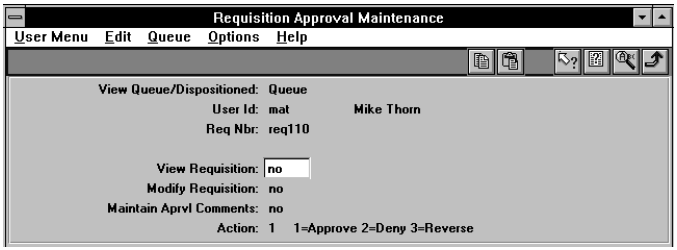


Fig. 17.1 Requisition Approval Maintenance (5.2.13)

View Queue/Dispositioned. Specify which list of requisitions you want to select from. The setting in this field determines which list you see when you use the arrow keys or the look-up browse.

Queue: The list of requisitions that are currently routed to you

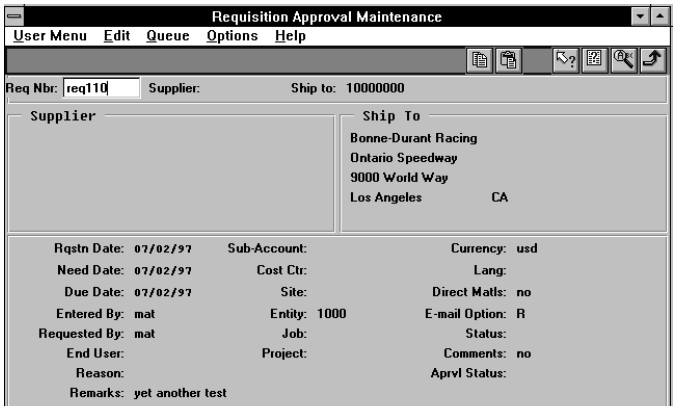
Dispositioned: The list of requisitions that you have already acted on

User Id. Displays the user ID of the reviewer or approver. This field defaults to the individual logged on to the system. You can change this to another person's ID only if you have been designated as this person's alternate or administrative approver in an approver maintenance program.

Req Nbr. Enter the number of the requisition you want to approve. Use the arrow keys to select from the Queue or Dispositioned list.

View Requisition. Enter Yes or No to indicate whether the system should display the requisition in read-only mode, as shown in Figure 17.2. If you select Yes, the requisition is immediately displayed. At the line level, use the arrow keys to scroll through line numbers; press Enter to select a line to be displayed.

Fig. 17.2
Requisition Approval Maintenance, View Requisition Screen



When you are finished viewing the requisition, press Exit to return to the Requisition Approval Maintenance screen.

See “Creating a Requisition with Requisition Maintenance” on page 180.

Modify Requisition. Indicate whether you want to change the requisition. If you select Yes, the requisition is immediately displayed, as shown in Figure 17.3. Although the screen label still says Requisition Approval Maintenance, the program can perform all the functions of Requisition Maintenance. Modify the requisition as needed.

Fig. 17.3
Requisition Approval Maintenance, Modify Requisition Screen



When you have completed the changes, press Exit to return to the Requisition Approval Maintenance screen (Figure 17.1).

Maintain Aprvl Comments. Enter Yes or No to indicate whether you want to add comments for subsequent approvers to read. If you select Yes, you can enter comments.

Action. Enter the code for one of three possible actions. Enter 1 to approve the requisition, 2 to deny it, or 3 to reverse an earlier action.

After you review, modify, and take action on the requisition, you are prompted to confirm that all the information is correct; if you select Yes, you are prompted to route the requisition. No returns you to the Requisition Approval Maintenance screen.

If you select Yes on the routing prompt, a routing screen (Figure 17.4) lets you route the requisition to the next reviewer. If you select No, the action you indicated takes effect, but the requisition stays in your queue until you route it.

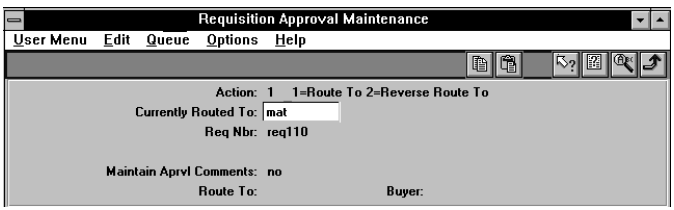


Fig. 17.4 Requisition Approval Maintenance, Routing Screen

Action. Specify the routing action you want to take.

- Select 1 to route the requisition to the person whose user ID you enter in Route To.
- If you change your mind or route the requisition to the wrong person, select 2 to return the requisition to your queue.

Currently Routed To. This field displays the ID of the user in whose queue the requisition resides. You can change this only if you are an alternate or administrative approver for the current routed-to user.

Req Nbr. Enter the number of the requisition you want to route. This defaults to the requisition you have just reviewed.

Maintain Aprvl Comments. Enter Yes if you want to add comments for the next person on the routing to read. The default is No.

Route To. Enter the ID of the next person in the approval process. Use the look-up browse to view the list of appropriate approvers determined by the system based on sub-account, category, and job information.

Buyer. Enter the ID of the person responsible for issuing a purchase order for approved requisition items. Buyers are defined with Buyer Maintenance (5.2.1.20). Unless you are the final person to approve the requisition, you can leave this field blank. However, a reviewer or approver must complete the field before final approval. The buyer is informed by system-generated E-mail when the requisition has been approved.

Final Approval

If your approval is the last one needed, the system displays a message that the requisition is approved and prompts you to route the requisition to Purchasing. If you choose Yes and the Buyer field has not been completed, the cursor advances to Buyer. When you enter the user ID of a valid buyer, the approval process is finished.

However, you can override this system action. If you want another person to review the requisition, choose No. The cursor then moves to the Route To field, and you can specify another user.

Requisition Routing Maintenance

Requisition Routing Maintenance (5.2.14) can be used instead of Requisition Approval Maintenance to route a requisition to another user. It also offers the ability to reverse a previous routing. For example, you, as a reviewer or approver, might accidentally route a requisition to the wrong person, or you might change your mind about the routing after it has been completed. When you reverse a previous routing, the recipient receives a second E-mail with the message that the requisition is no longer awaiting action.

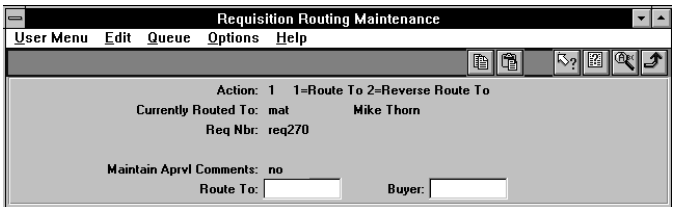
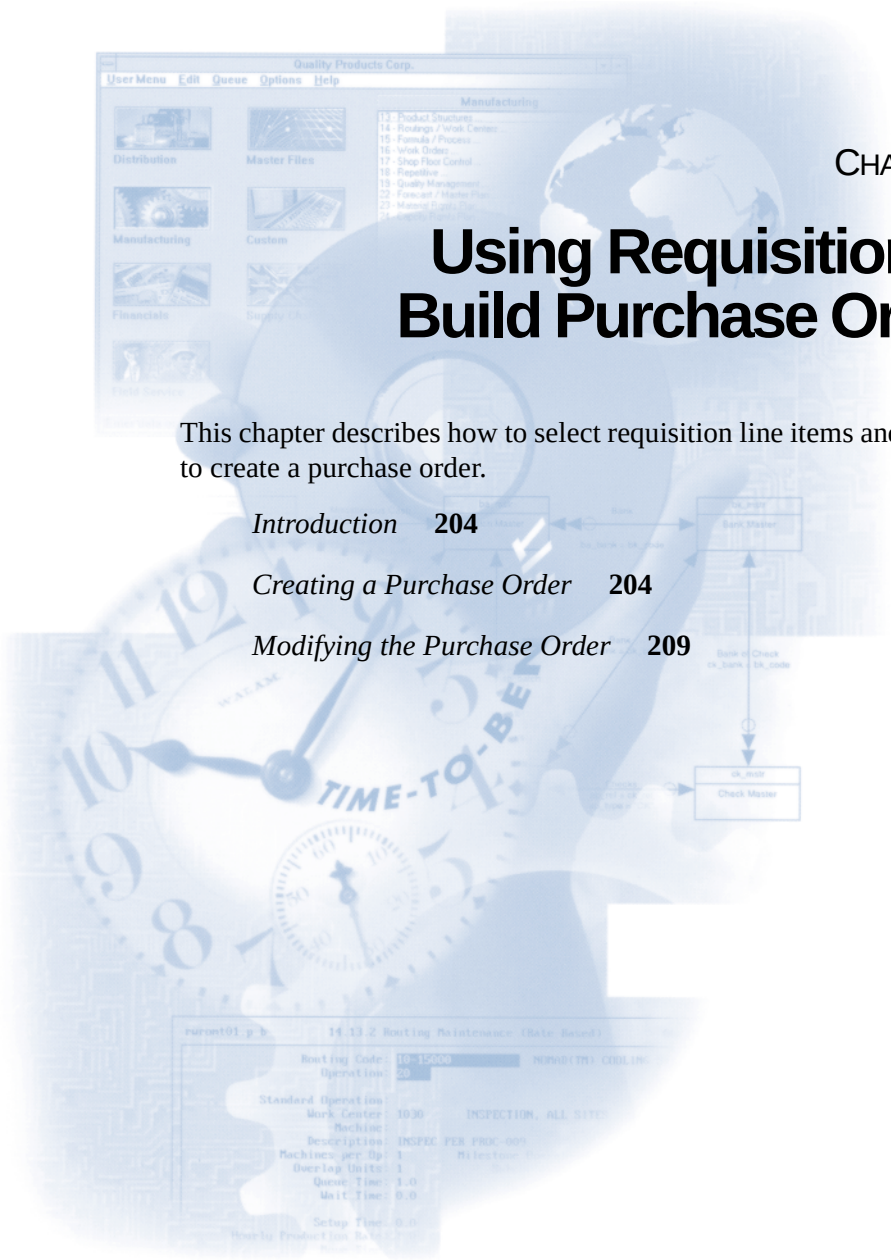


Fig. 17.5
Requisition Routing Maintenance (5.2.14)

The fields in Requisition Routing Maintenance are the same as those in the routing screen of Requisition Approval Maintenance.

See page 199.

This completes the approval process. The next chapter describes how the buyer creates a purchase order from the approved requisition lines.



CHAPTER 18

Using Requisitions to Build Purchase Orders

This chapter describes how to select requisition line items and use them to create a purchase order.

Introduction **204**

Creating a Purchase Order **204**

Modifying the Purchase Order **209**

Introduction

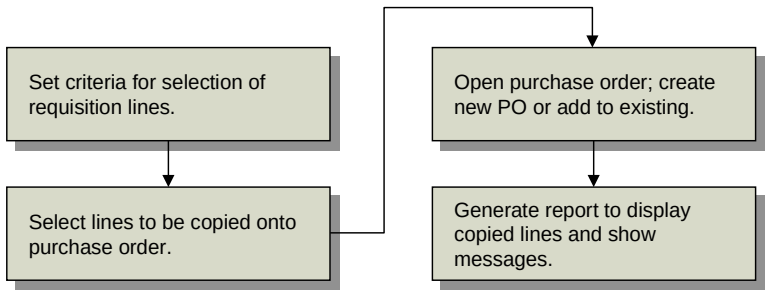
When a requisition has been approved, you can reference the requisition line items on a purchase order in two ways:

See “Modifying the Purchase Order” on page 209 and “Out-of-Tolerance Conditions” on page 210.

- Create a purchase order in Purchase Order Maintenance (5.7), enter header data, then reference each individual requisition line on a PO line. This is the same process described in *User Guide Volume 2: Distribution*. This chapter also includes changes GRS has made to Purchase Order Maintenance.
- Copy requisition lines directly to a new or existing purchase order using Build PO from Requisitions (5.2.18).

This chapter discusses the second option. Figure 18.1 summarizes the task flow.

Fig. 18.1
Build PO from Requisitions Task Flow



Creating a Purchase Order

Build PO from Requisitions (5.2.18) consists of a series of frames that lead you through the build process:

1. Set the criteria you want to use for selecting appropriate requisition lines.
2. Select the lines you want to copy to the purchase order.
3. Open a purchase order; either create a new PO or open an existing one where you want to append the requisition lines.
4. Generate a report on the copy process. This report displays the lines that you copied, as well as any warning messages GRS has generated.

Establishing Selection Criteria

The first screen lets you specify a number of selection criteria for the system to use in displaying approved requisition line items. You do not have to use all the criteria; use only the fields appropriate to the selection you want to make. You also specify on this screen whether you want the default setting for copying line items to the new PO to be Yes or No.

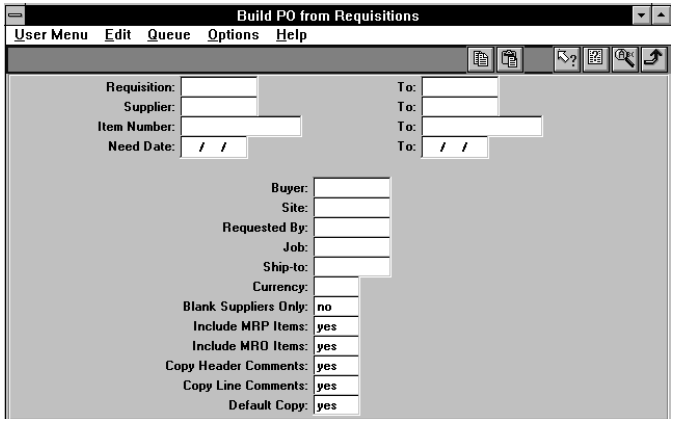


Fig. 18.2
Build PO from Requisitions (5.2.18)

Requisition. Enter the first of the range of requisition numbers you want to include in the selection. Enter the same number in the To field to limit the selection to one requisition.

Supplier. Enter the first of the range of supplier numbers you want to include in the selection. Enter the same number in the To field to limit the selection to requisitions including only that supplier.

Tip
To include only requisitions that do not have a supplier specified, set Blank Suppliers Only to Yes.

Item Number. Enter the first of the range of item numbers you want to include in the selection. Enter the same number in the To field to limit the selection to requisitions including only that item.

Need Date. Enter the first in the range of need dates you want to include in the selection. Enter the same date in the To field to limit the selection to requisitions including only that need date.

Buyer. Enter the user ID of the buyer. This defaults to the user who logged on. Clear this field to display the selection list for all buyers. You can also enter another buyer's user ID.

Site. Enter a specific site code to be included in the selection criteria.

Requested By. Enter the user ID of a specific requestor to be included in the selection criteria.

Job. Enter a specific job code to be included in the selection criteria.

Ship-to. Enter a specific ship-to address to be included in the selection criteria.

Currency. Enter a specific requisition currency to be included in the selection criteria.

Blank Suppliers Only. Enter Yes or No to indicate whether you want to view only those requisitions that *do not* have a supplier specified; the default is No.

Note If you have also made an entry in the Supplier field, changing Blank Suppliers Only to Yes takes precedence—only requisitions without a supplier are selected.

Tip
MRP items are received into inventory and considered by MRP as a source of supply.

Include MRP Items. Enter Yes or No to indicate whether you want to include direct materials items in the selection criteria; defaults to Yes. If you do not want to include requisitions for direct materials in the selection criteria, change this flag to No. If you set this to No and leave Include MRO Items set to Yes, the selection screen includes only MRO items.

Tip
MRO items include maintenance, repair, and operating supplies.

Include MRO Items. Enter Yes or No to indicate whether you want to include MRO items in the selection criteria; defaults to Yes. If you do not want to include requisitions for MRO items in the selection criteria, change this flag to No. If you set this to No and leave Include MRP Items set to Yes, the selection screen includes only direct-materials items.

Copy Header Comments. Enter Yes or No to indicate whether to copy header comments onto a new PO; defaults to Yes. If set to Yes and you are creating a new purchase order, the header comments from the first requisition you selected for copying become the header comments on the PO. This only applies the first time you copy lines to a new purchase order. If you are appending lines to an existing PO, the flag is ignored. Once you have copied the header comments, you can modify them in Purchase Order Maintenance (5.7).

Copy Line Comments. Enter Yes or No to indicate whether to copy requisition line comments into PO line comments; defaults to Yes.

Default Copy. Enter Yes or No to indicate the default value for the Copy field on the line items listed on the next screen as a result of the criteria selection; defaults to Yes.

Selecting Purchase Requisition Line Items

After you have completed the first screen, GRS shows a list of approved, open requisition line items that meet your selection criteria. You can scroll through this list and determine whether you want to copy each line to a new purchase order; set the Copy flag to Yes for lines you want to copy. The Copy field is the only field on this screen that can be changed.

1. Press Tab to move down the list and Enter to advance to the Copy field.
2. When the Yes or No flag is correct, press Go, then Tab to move to the next line.

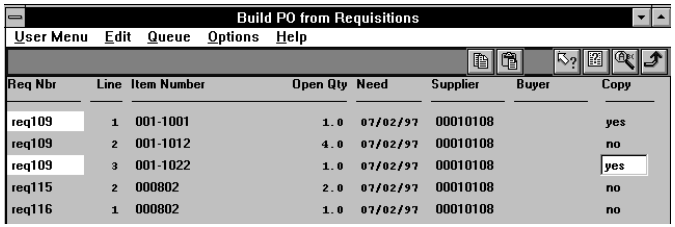


Fig. 18.3 Build PO from Requisitions, Selection Screen

When you have selected the lines you want to copy to the PO, you are prompted to confirm that all the information is correct. Select Yes to advance to the next screen; No returns the cursor to the selection screen.

Adding Requisition Lines to the Purchase Order

After you select the approved requisition lines you want to copy, a purchase order header frame appears. If you want to copy the requisition items to a new purchase order, press Enter and the system assigns a new PO number. To append the copied requisition lines to an existing purchase order, enter the PO number.

Fig. 18.4
Build PO from Requisitions, First Header Frame



A message at the bottom of the screen indicates whether this PO is new or existing. If it is a new purchase order, the Supplier and Ship-To fields default from the first requisition you selected for copying. You can change these fields as required. If this is an existing purchase order, that PO's Supplier and Ship-To values are displayed. If you want to change one of these fields, you must use Purchase Order Maintenance (5.7).

Use the Output field to select the way you want to display the PO report. You can route it to a printer, a window, a terminal, or a file.

Note Sending this report to a printer is *not* the same as printing the PO for the supplier. When you are ready to issue the PO, print it with Purchase Order Maintenance (5.7) or Purchase Order Print (5.10).

Using the PO Report

The PO report shows a line-by-line summary of all the requisition items you copied to the purchase order. Warnings, if any, are displayed after each line item. Review the report and make changes as needed in Purchase Order Maintenance (5.7).

Among other things, the report indicates conflicts between the header supplier and line-item supplier.

```
rgpdold.p                5.2.18 Build PO From Requisition                Page: 1

Need Site  Req     Byeq  NJob    Item Number  Open QTY   UM Unit Cost  Disc

10000     REQ2700               0009000             1   EA   20.00    0.004%

site100

WARNING: PO LINE SITE IS DIFFERENT FROM PO HEADER SITE.
Record Added
```

Fig. 18.5
PO Build Report

Modifying the Purchase Order

Use Purchase Order Maintenance (5.7) to make any changes required to the new purchase order and continue the purchasing process. When GRS is active, a requisition line field displays to accommodate the multiple-line requisitions built in GRS (see Figure 18.6).

- Purchase Order Maintenance is described in *User Guide Volume 2: Distribution*.

A look-up browse on the Req field lists the approved requisitions currently routed to Purchasing so that they can be added directly to the PO without using Build PO from Requisitions (5.2.18).

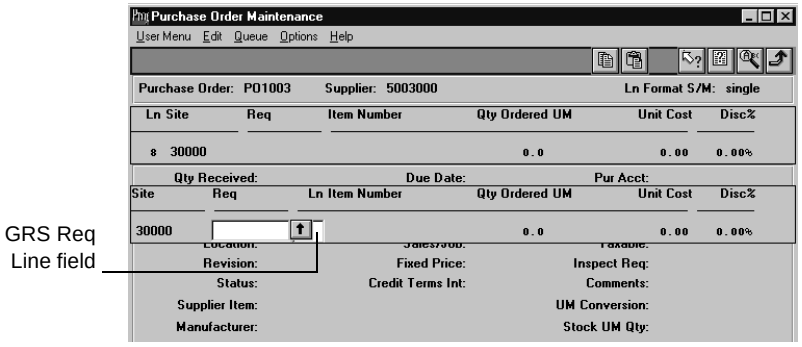


Fig. 18.6
Purchase Order Maintenance (5.7), Line Item Frame

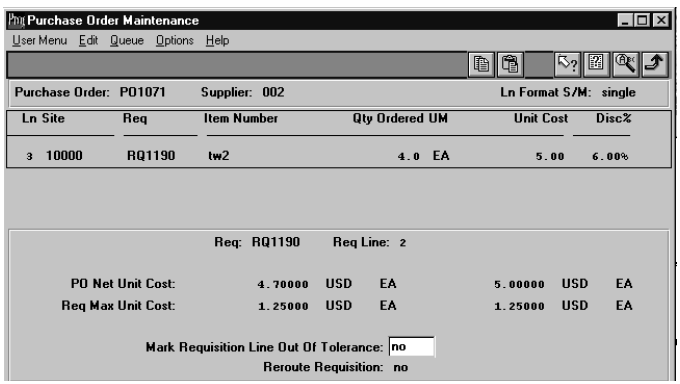
Out-of-Tolerance Conditions

Control file settings for out of tolerance are described beginning on page 169.

Your company defines the way it wants to deal with out-of-tolerance conditions in the Requisition Control File (5.2.1.24). Two flags—Use Tolerance Value and Use Tolerance Percent—enable the system administrator to control if and how GRS calculates out of tolerance. Out-of-tolerance processing works only if one of those flags is set to Yes.

A requisition line becomes out of tolerance if the buyer changes the Unit Cost field on a PO line to exceed the requisition maximum cost by more than the tolerance percent or tolerance value. When this happens, GRS displays the out-of-tolerance cost along with a Mark Requisition Line Out of Tolerance flag.

Fig. 18.7
Purchase Order Maintenance, Out-of-Tolerance Frame



If the buyer selects No, the cursor returns to the Unit Cost field—offering the buyer a chance to enter a lower value to bring the line back into tolerance. The line cannot be placed on a PO if its cost is higher than the maximum approved cost plus the tolerance value or percent, if one has been assigned.

When the buyer selects Yes, the cursor advances to the Reroute Requisition field. If the buyer sets the field to Yes, a Routing Maintenance screen appears. The Route To defaults from the setting in the Out of Tolerance Routing field in the Requisition Control File. The buyer can change this to any valid user. If the buyer chooses not to route the out-of-tolerance requisition at this time, it stays in the buyer's queue.

Note When the buyer marks a line out of tolerance, the Aprvl Status fields in the requisition header and the requisition line detail change from Approved to Out of Tolerance. If the requisition maximum cost is changed to bring the line back into tolerance, the status changes to Unapproved, and the requisition must repeat the approval process for that line before it can be placed on a purchase order. While the status is Out of Tolerance, the line can still be placed on a PO if the buyer enters a cost that is within the tolerance parameters.

CHAPTER 19

GRS Reports and Inquiries

Several report and inquiry programs are available from the Global Requisition Menu (5.2) and Setup Menu (5.2.1). Reports and inquiries are useful for viewing approval levels and profiles, determining the status of in-process requisitions, examining the history of a requisition, and so forth.

This chapter describes these reports and inquiries. Samples of the outputs are also included.

Viewing GRS Setup Data **214**

Viewing Requisition Data **217**

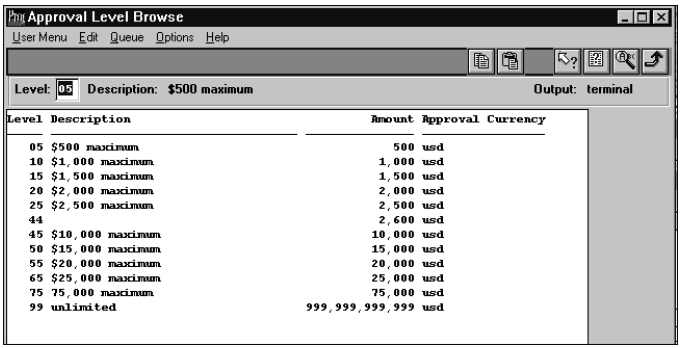
Deleting and Archiving Requisitions **223**

Viewing GRS Setup Data

Approval Level Browse

Use Approval Level Browse (5.2.1.2) to display the approval currency amounts and descriptions associated with approval codes.

Fig. 19.1
Approval Level Browse (5.2.1.2)



Category Report

Use Category Report (5.2.1.5) to display information about the categories defined in Category Maintenance (5.2.1.4). To show a single category description, enter the same value in both the Category and To fields. Otherwise, enter a range of categories. Leaving both fields blank produces a report on all categories.

If you set the Print Details Flag to No, the report shows the category description as well as the accounts included in the category and their descriptions. If you set the flag to Yes, the report also includes numbers and descriptions of all the accounts within the ranges assigned to the category.

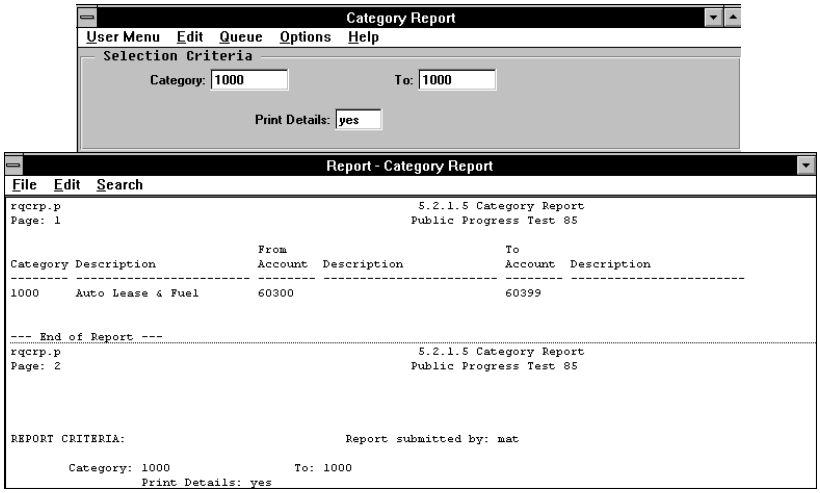


Fig. 19.2
Category Report (5.2.1.5)

Job Browse

If your company sets up approvals by job, use Job Browse (5.2.1.8) to display job codes and descriptions.

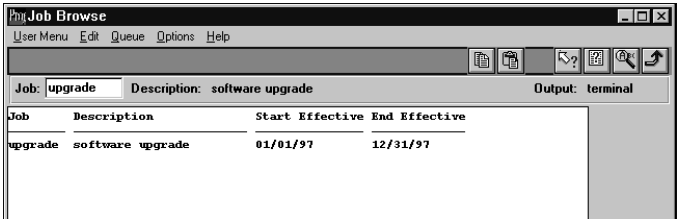


Fig. 19.3
Job Browse (5.2.1.8)

Approver Report

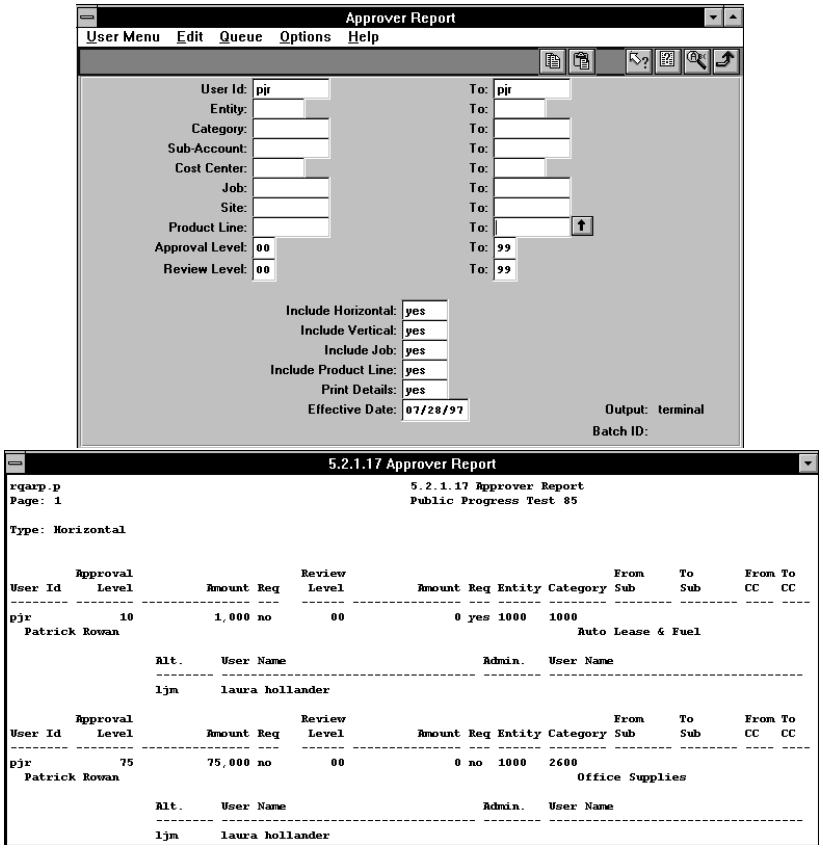
Use Approver Report (5.2.1.17) to display a variety of information about approvers, grouped by approver type (horizontal, vertical, job, product line) and name. You can request a report on a single approver by entering the same user ID in both the User Id and To fields. To view a report on specific levels, categories, and so forth, enter ranges of data in the appropriate fields. Leaving all fields blank produces a complete report on all approvers sorted by type.

Set the Yes or No flags as required to include information on the four types of approvers (horizontal, vertical, job, and product line) in the report.

The Print Details flag lets you specify how much detail you want to see. If you choose No, the report includes approval and review levels, sub-account and cost center ranges, categories, jobs, sites, product lines, and effective dates. If you choose Yes, the report adds the names of alternate and administrative approvers.

To view only those approvers whose profiles are in effect on a given date, complete the Effective Date field. The default is the current system date.

Fig. 19.4
Approver Report (5.2.1.17)



Viewing Requisition Data

Requisition Inquiry

Requisition Inquiry (5.2.4) cycles through the Requisition Maintenance (5.2.3) frames for a selected requisition in read-only mode.

To select a requisition, enter a valid requisition number in the Req Nbr field (use the arrow keys to scroll through the list of open requisitions) and press Go.

The first frame shows the first header frame. Press Space to move to the second header frame and to the line item detail. To select a line item, use the arrow keys to scroll through the list of line numbers. Then, press Enter to show the detail on the selected line.

When you are finished viewing the requisition, press End until the Requisition Inquiry screen appears.

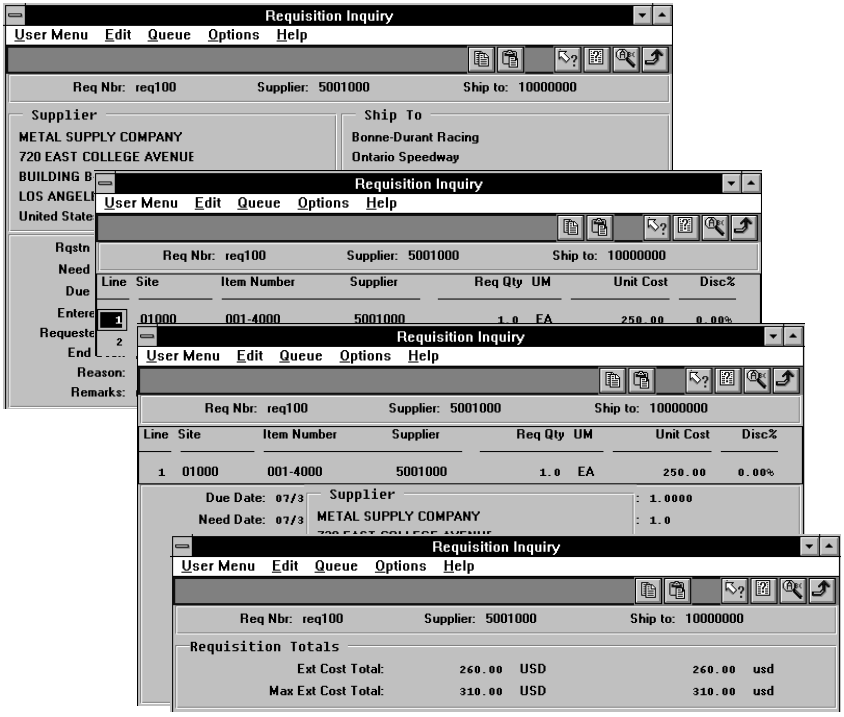
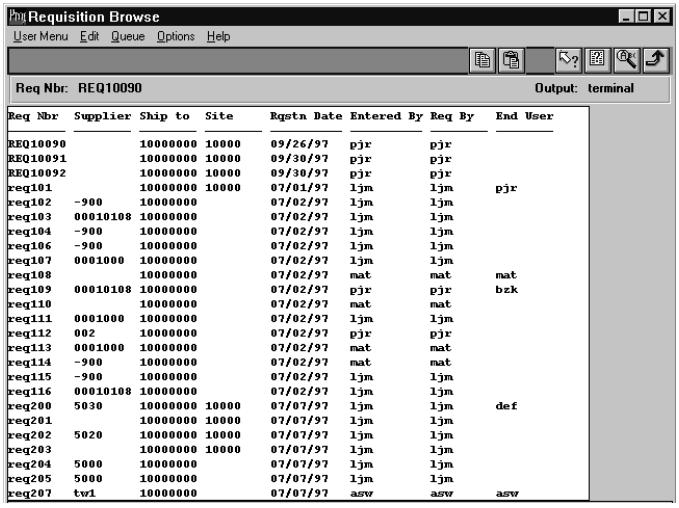


Fig. 19.5
Requisition Inquiry (5.2.4)

Requisition Browse

Use Requisition Browse (5.2.5) to display various data about requisitions, including supplier, requisition date, entered by, requested by, and end user.

Fig. 19.6
Requisition Browse (5.2.5)



Req Nbr	Supplier	Ship to	Site	Rqstn Date	Entered By	Req By	End User
REQ10090		10000000	10000	09/26/97	pjr	pjr	
REQ10091		10000000	10000	09/30/97	pjr	pjr	
REQ10092		10000000	10000	09/30/97	pjr	pjr	
req101		10000000	10000	07/01/97	ljm	ljm	pjr
req102	-900	10000000		07/02/97	ljm	ljm	
req103	00010108	10000000		07/02/97	ljm	ljm	
req104	-900	10000000		07/02/97	ljm	ljm	
req106	-900	10000000		07/02/97	ljm	ljm	
req107	0001000	10000000		07/02/97	ljm	ljm	
req108		10000000		07/02/97	mat	mat	mat
req109	00010108	10000000		07/02/97	pjr	pjr	bzk
req110		10000000		07/02/97	mat	mat	
req111	0001000	10000000		07/02/97	ljm	ljm	
req112	002	10000000		07/02/97	pjr	pjr	
req113	0001000	10000000		07/02/97	mat	mat	
req114	-900	10000000		07/02/97	mat	mat	
req115	-900	10000000		07/02/97	ljm	ljm	
req116	00010108	10000000		07/02/97	ljm	ljm	
req200	5030	10000000	10000	07/07/97	ljm	ljm	def
req201		10000000	10000	07/07/97	ljm	ljm	
req202	5020	10000000	10000	07/07/97	ljm	ljm	
req203		10000000	10000	07/07/97	ljm	ljm	
req204	5000	10000000		07/07/97	ljm	ljm	
req205	5000	10000000		07/07/97	ljm	ljm	
req207	tw1	10000000		07/07/97	asw	asw	asw

Requisition Report

Use Requisition Report (5.2.6) to display one or more requisitions you determine by entering various selection criteria. After entering ranges of selection criteria, you can set flags to include only open requisitions, include header and line comments in the report, output the report in single- or multiple-line format, or start each requisition on a new page.

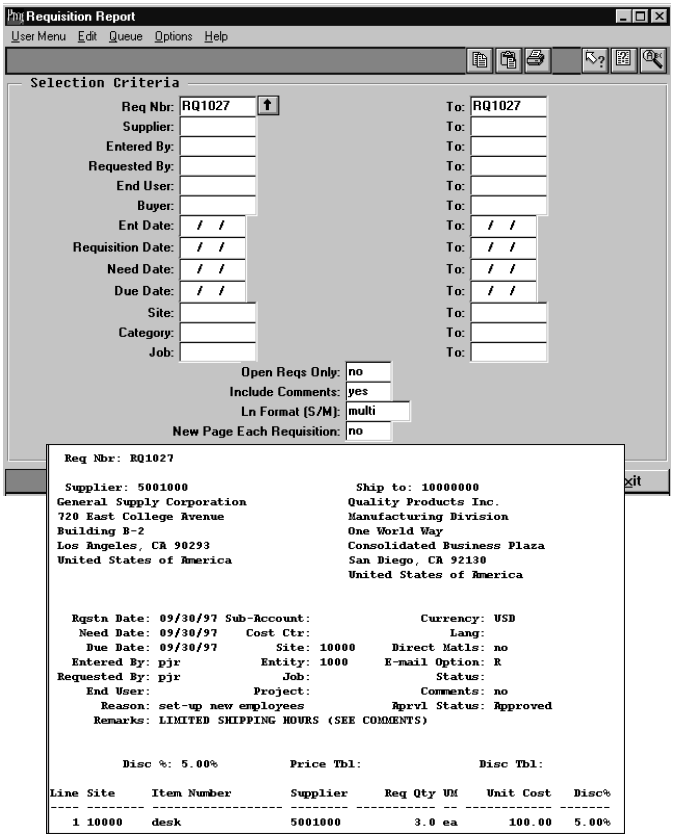


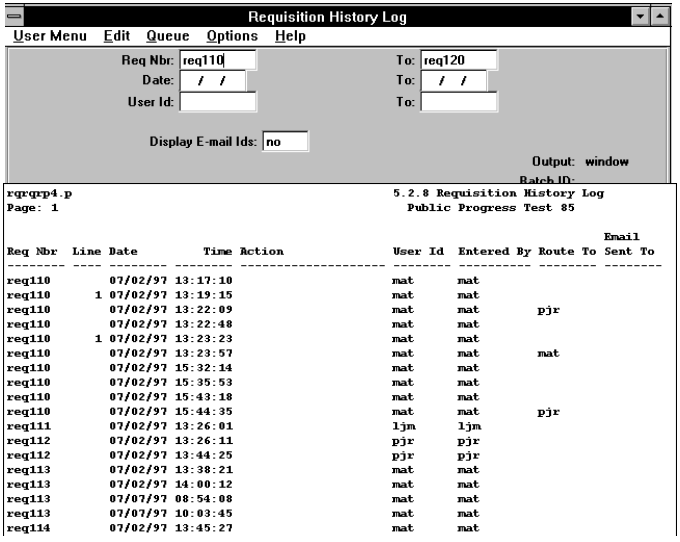
Fig. 19.7
Requisition Report (5.2.6)

Requisition History Log

Use Requisition History Log (5.2.8) to track the routing and action history of a single requisition or range of requisitions. Use the Date and User Id fields as needed to narrow the results to a range of activity dates or users.

Set the Display E-mail Ids field to Yes to display a list of users who received E-mail as a result of each action.

Fig. 19.8
Requisition History Log (5.2.8)



Approval Status Inquiry

The Approval Status Inquiry (5.2.15) indicates the current routing and approval status of a requisition. It includes the types and numbers of approvals defined in the control file, as well as the number still needed for this requisition. If any approvers have entered approval comments, they are displayed on this inquiry.

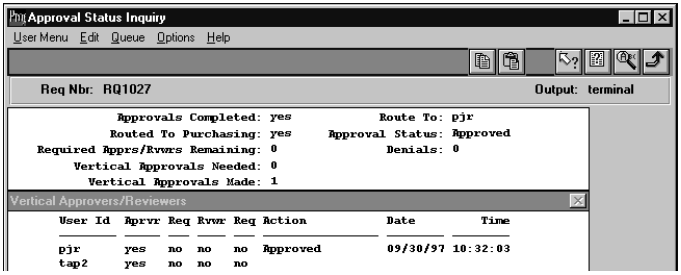


Fig. 19.9
Approval Status Inquiry (5.2.15)

Approver's Open Req. Inquiry

The Approver's Open Req. Inquiry (5.2.16) shows which requisitions are currently routed into an approver's queue.

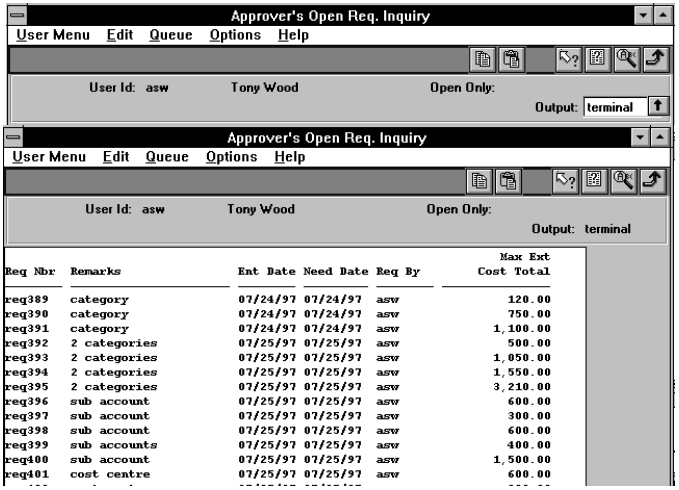
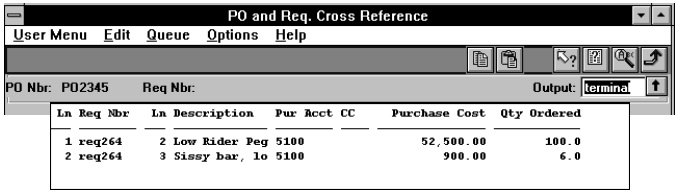


Fig. 19.10
Approver's Open Req. Inquiry (5.2.16)

PO and Req. Cross Reference

The PO and Req. Cross Reference (5.2.17) lets you enter a purchase order number and see which requisition numbers have been placed on it. Or, you can enter a requisition number and see the purchase orders where the requisition lines have been placed.

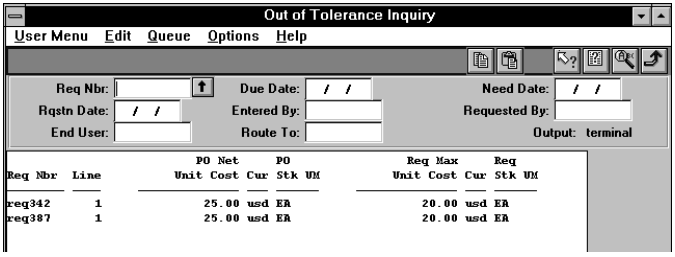
Fig. 19.11
PO and Req. Cross Reference (5.2.17)



Out of Tolerance Inquiry

Use Out of Tolerance Inquiry (5.2.21) to display out-of-tolerance requisition lines. Optionally, you can fill in selection criteria to narrow the list of lines displayed. Leaving all the fields blank displays all out-of-tolerance lines. Data displayed includes both PO cost and requisition cost and unit of measure.

Fig. 19.12
Out of Tolerance Inquiry (5.2.21)



Deleting and Archiving Requisitions

Use Requisition Delete/Archive (5.2.23) to archive and delete closed purchase requisitions—those for which all lines have been received or canceled.

Run the program twice, establishing selection criteria and leaving Delete set to No the first time. You can then review the resulting report and adjust the selection criteria until they are correct. Then, run the program with both Delete and Archive set to Yes. The system archives historical data and deletes all requisitions meeting the selection criteria.

For each deleted requisition, you can delete all history records that are older than the number of days entered in History Older Than Days. For example, if you enter 100, the system deletes history records that are over 100 days old for each requisition meeting the selection criteria.

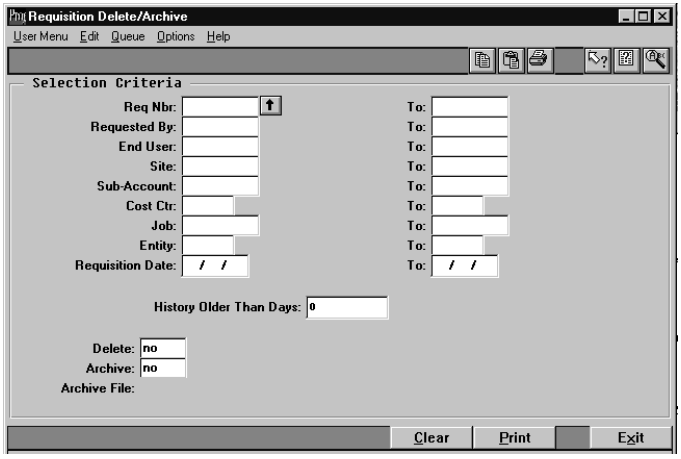
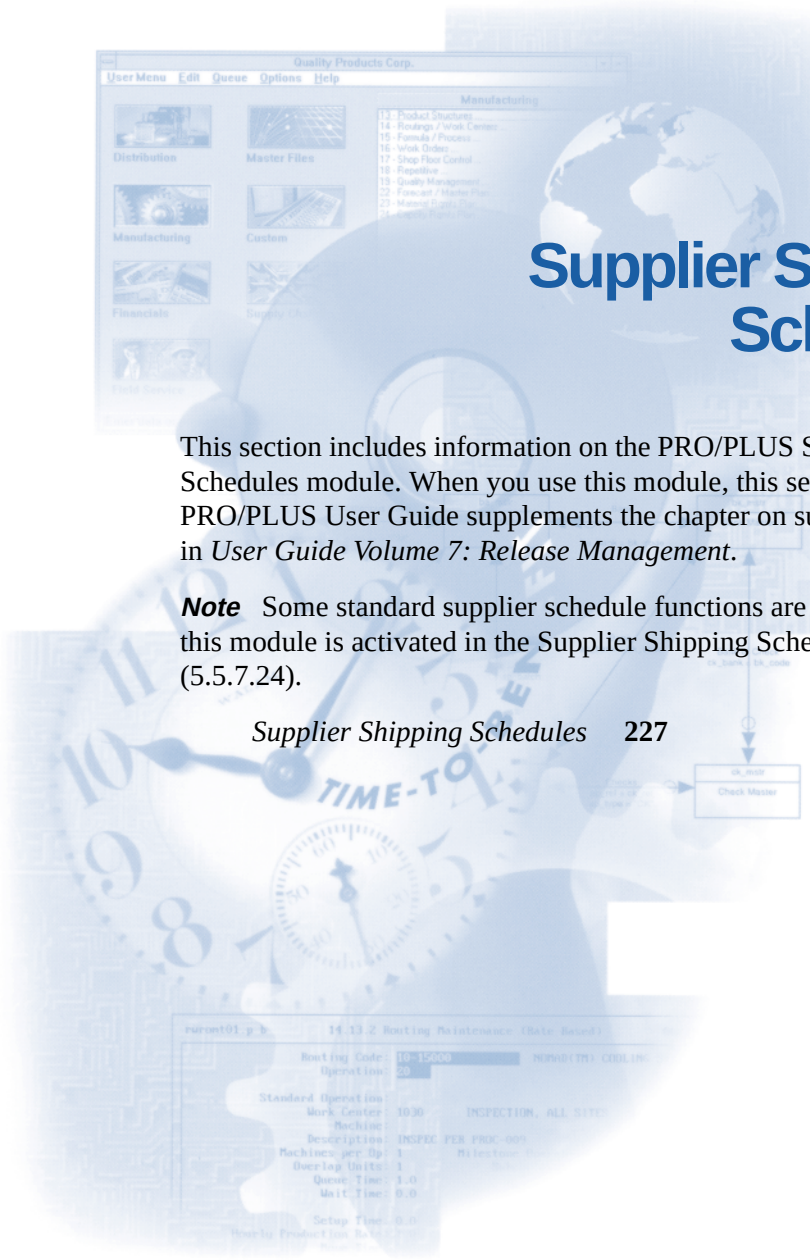


Fig. 19.13 Requisition Delete/ Archive (5.2.23)



SECTION 5

Supplier Shipping Schedules

This section includes information on the PRO/PLUS Supplier Shipping Schedules module. When you use this module, this section of the PRO/PLUS User Guide supplements the chapter on supplier schedules in *User Guide Volume 7: Release Management*.

Note Some standard supplier schedule functions are disabled when this module is activated in the Supplier Shipping Schedule Control File (5.5.7.24).

CHAPTER 20

Supplier Shipping Schedules

This chapter describes how to set up and use features of the PRO/PLUS Supplier Shipping Schedules module.

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Introduction

Standard MFG/PRO eB supports one type of supplier schedule (type 4) that combines short-term and long-term requirements. The PRO/PLUS Supplier Shipping Schedules module lets you generate separate supplier planning and shipping schedules. To facilitate this, this module adds two additional supplier schedules types:

Type 5: Supplier Planning Schedules

Type 6: Supplier Shipping Schedules

Note This module does not affect customer schedule functions.

Type 4 schedules are described in *User Guide Volume 7: Release Management*.

When the Supplier Shipping Schedules module is active, only supplier schedules of type 5 and 6 can be edited using maintenance programs. Standard supplier schedules (schedule type 4) continue to exist, but are maintained by the system.

Supplier shipping schedules and supplier planning schedules can be used alone or in coordination with each other. They communicate requirements for multiple deliveries from a supplier who may need to adjust production to accommodate your orders.

Planning schedules are used to record weekly and monthly item requirements, while shipping schedules record daily item requirements divided into hour and minute buckets.

Companies with long-term supplier contracts that require regular weekly, daily, or even hourly deliveries typically use both planning and shipping schedules.

By themselves, planning schedules can be used in the same way standard supplier schedules are used in MFG/PRO eB. For example, some manufacturing environments do not require the detailed bucketing features of the shipping schedule for all of their suppliers. When this is true, the planning schedule is used instead. When you generate a planning schedule without generating a corresponding shipping schedule, the planning schedule includes the daily item requirements, but without the automatic time bucketing of the shipping schedule.

Supplier shipping and planning schedules can be created manually. However, typically they are generated automatically based on item requirements from Material Requirements Planning (MRP).

Note When supplier shipping and planning schedules are updated manually, MRP is not directly affected. However, any manual changes to a shipping or planning schedule are used to automatically update the system-maintained supplier schedule (type 4). The next time MRP is run, the modified schedule data are considered by MRP.

Types of Purchase Orders

Table 20.1 contrasts the characteristics of PRO/PLUS supplier schedules with other kinds of purchase orders.

Table 20.1 Summary of Purchase Order Characteristics

	Supplier Shipping Schedules	**Supplier Planning Schedules**	**Supplier Schedules**	**Purchase Orders**	**Blanket Orders**
Delivery Dates	Multiple	Multiple	Multiple	Single for order/item	Multiple
Delivery Times	Multiple—System-Generated	Multiple—Entered Manually	Multiple—Entered Manually	No	No
Seen by MRP	Indirectly, through type 4 schedule	Indirectly, through type 4 schedule	Yes	Yes	No
Receipts	Yes	Yes	Yes	Yes	No
Duration	Short- and Medium-Term	Medium- and Long-Term	Short-, Medium-, and Long-Term	One-Time	Short- and Medium-term
Elements	Header Shipping Schedule Trailer	Header Planning Schedule Trailer	Header Planning Schedule Shipping Schedule Trailer	Header Line Items Trailer	Header Line Items Trailer POs

Supplier Schedules Example

A manufacturer of circuit boards needs blank boards supplied on each day of the week. The manufacturer knows the exact quantities they require for the next few days, can estimate their requirements for the next few weeks, and knows the approximate requirements for the next 12 months.

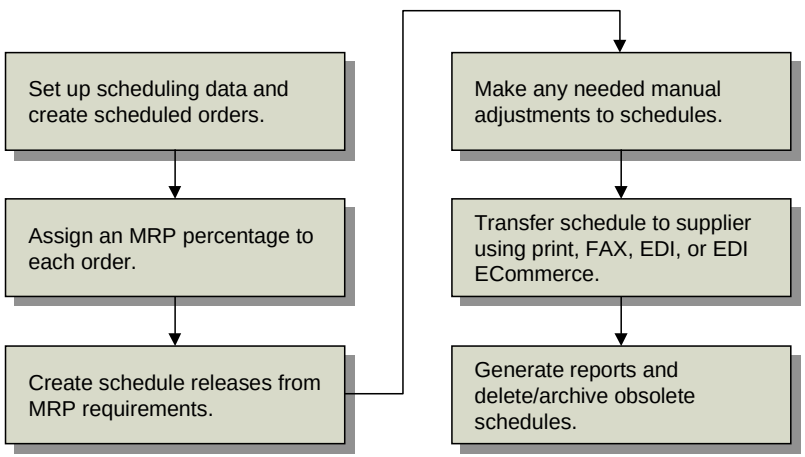
The supplier of these circuit board blanks uses the planning information provided by the manufacturer to place its orders for raw materials and to plan production. It can use planning schedules to help define its delivery and planning schedules and shipping schedules to schedule the day-to-day deliveries required by the circuit board manufacturer.

The same manufacturer also needs to order the solder used to weld circuits to the board. Since the solder is sold in bulk quantities and a large supply is always on hand, the manufacturer does not generate shipping schedules for it. Instead, a planning schedule for solder requirements is generated for the next twelve months. The planning schedule indicates that solder should be delivered only once per week.

Supplier Schedules Work Flow

Figure 20.1 illustrates the steps required to set up and process supplier planning and shipping schedules. Each of these steps is described in detail in the following sections.

Fig. 20.1
Supplier Schedules Work Flow



Menu Listing

The PRO/PLUS Supplier Schedules Menu (5.5.7) is a submodule on the Purchasing menu at the same level as the standard MFG/PRO eB Supplier Schedules module.

See *User Guide Volume 2: Distribution* for details about Purchasing.

Table 20.2 lists the programs added to MFG/PRO eB by the Supplier Shipping Schedules module.

Table 20.2 PRO/PLUS Supplier Schedules (5.5.7)

Menu Number	Description	Program Name
5.5.7.1	Ship Delivery Time Maintenance	rssdtmt.p
5.5.7.2	Ship Delivery Time Inquiry	rssdtiq.p
5.5.7.4	Supplier Controls Maintenance	adssmt.p
5.5.7.6	Supplier Planning Schedule Maint	rspsmt.p
5.5.7.7	Supplier Shipping Schedule Maint	rsssmt.p
5.5.7.13	Ship Schedule Variance Compare	rsrp10.p
5.5.7.14	Ship to Plan Schedule Compare	rsrp11.p
5.5.7.24	Supplier Schedule Control File	rspm.p

When you activate this module, new features are added to some existing programs, and Schedule Maintenance (5.5.3.3) cannot be used to maintain schedules. The added features help to create, process, export, and report data for supplier shipping and planning schedules.

For information on how to activate Supplier Shipping Schedules, see page 233.

When you deactivate the Supplier Shipping Schedules module, the modified programs again operate as they did before, and Schedule Maintenance can be used to modify type 4 schedules. When Supplier Shipping Schedules is inactive, you cannot update supplier schedules of type 5 or 6.

Programs modified by Supplier Shipping Schedules are listed in Table 20.3.

Table 20.3 PRO/PLUS Supplier Shipping Schedules, Modified Programs

Menu Number	Description	Program Name
5.5.1.13	Scheduled Order Maintenance	rspomt.p
5.5.3.1	Schedule Update from MRP	rssup.p
5.5.3.3	Schedule Maintenance	rssmt.p
5.5.3.4	Schedule Inquiry	rsiq01.p
5.5.3.5	Schedule History Inquiry	rsiq02.p

Menu Number	Description	Program Name
5.5.3.8	Schedule Print	rsrp05.p
5.5.3.9	Schedule Print in Fax Format	rsrp09.p
5.5.3.13	Schedule Report	rsrp01.p
5.5.3.15	Schedule Comparative	rsrp02.p
5.5.3.17	Schedule Authorization Report	rsrp03.p
5.5.3.23	Schedule Delete/Archive	rsdel.p
35.18	Supplier Schedule Export	edexsch.p
35.19	Supplier Schedule Export Aud Rpt	edexrp04.p

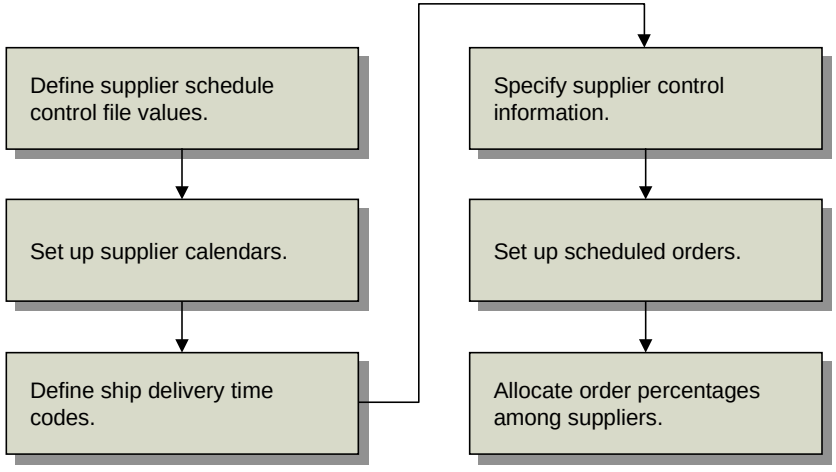
Setting Up Supplier Schedules

For information on setting up and running MRP, see *User Guide Volume 3: Manufacturing*.

To use supplier shipping and planning schedules, you must set up the same base data required for purchase orders, including purchased items and supplier addresses. In addition, to automatically generate schedules based on item requirements from MRP, you must set up the base data and parameter values required by MRP, including item planning data.

Figure 20.2 illustrates a typical work flow for setting up the additional schedule-related data required to use supplier planning and shipping schedules. Each of these steps is discussed in detail in the following sections.

Fig. 20.2
Supplier Schedules Setup Flow



Setting Control File Values

Use settings in the Supplier Schedule Control File (5.5.7.24) to activate the PRO/PLUS Supplier Shipping Schedules module and define generic default values for scheduled orders and generated schedules.

Many of the field values in the Supplier Schedule Control File default to corresponding fields in Supplier Controls Maintenance (5.5.7.4). The control-file values also default to scheduled orders for suppliers that do not have supplier-specific defaults. You can modify the defaults you define here as needed for individual suppliers and scheduled orders.

See “Defining Scheduled Order Defaults for Specific Suppliers” on page 236.

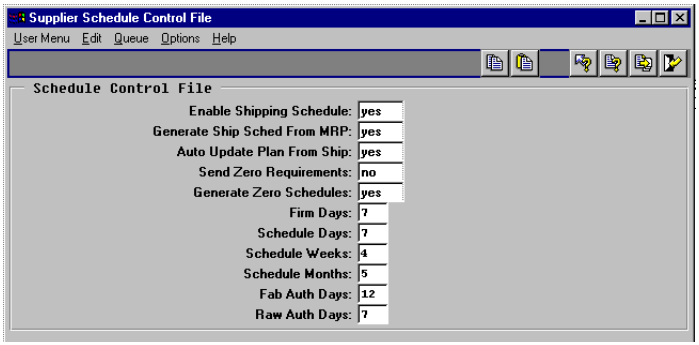


Fig. 20.3 Supplier Schedule Control File (5.5.7.24)

Enable Shipping Schedule. Enter Yes to activate the Supplier Shipping Schedules module.

Note When this value is Yes, you cannot manually update standard supplier schedules (type 4).

Generate Ship Sched From MRP, Firm Days, Schedule Days, Schedule Weeks, Schedule Months, Fab Auth Days, Raw Auth Days. These fields set the default values for their corresponding fields in Supplier Controls Maintenance. In addition, they default to corresponding fields in scheduled orders created for suppliers that do not have supplier-specific defaults set up in Supplier Controls Maintenance.

See “Creating Scheduled Orders” on page 238.

Auto Update Plan From Ship. This field indicates whether planning schedules are automatically updated by the system when you make manual changes to their associated shipping schedules.

No: Planning schedules are not updated when their associated shipping schedules are changed.

Yes: When a requirement on a shipping schedule is manually changed, the requirement on the associated planning schedule for the active release ID is automatically updated.

Automatic update occurs only when the shipping and planning schedules have the same release ID and have not been sent to the supplier.

Entering Yes ensures that the requirements in the two schedules always correspond.

Example On a typical Monday, you generate both a planning schedule for weeks and months and a shipping schedule for the next one or two weeks. One of your customers sends a rush order, and you must adjust the shipping schedule. As a result, the current shipping schedule no longer corresponds to the planning schedule. When Auto Update Plan From Ship is Yes, the system automatically updates your planning schedule with the changes you made to the shipping schedule.

See “Defining Scheduled Order Defaults for Specific Suppliers” on page 236.

Send Zero Requirements, Generate Zero Schedules. These fields set the default values for their corresponding fields in Supplier Controls Maintenance.

Setting Up Supplier Calendars

See “Quantity and Date Calculations” on page 250.

If your supplier works different days than you do, set up a supplier-specific calendar for them in Supplier Calendar Maintenance (5.5.1.1). Schedule Update from MRP considers these calendars when generating schedule releases. For suppliers that do not have supplier-specific calendars, the system uses the applicable shop calendar defined in Calendar Maintenance (36.2.5).

Defining Ship Delivery Time (SDT) Codes

Use Ship Delivery Time Maintenance (5.5.7.1) to define ship delivery time (SDT) codes and associate one or more delivery times with them.

SDT codes specify exact delivery times on supplier shipping schedules. Daily item requirements are divided into hour and minute buckets based on these delivery times.

Note SDT codes are not used on supplier planning schedules. You can specify an interval code, as needed.

Associate SDT codes with individual scheduled orders to avoid having to manually enter delivery times on supplier shipping schedules. You can also use Supplier Controls Maintenance (5.5.7.4) to associate default SDT codes with individual suppliers. Schedule Update from MRP (5.5.3.1) uses the delivery times associated with SDT codes on scheduled orders to bucket daily item requirements on supplier shipping schedules.

See "Requirement Bucketing" on page 248.

Residual quantities from multiple deliveries are always added to the first delivery of the day. Also, pack quantities are not split. For example, if an item is delivered in lots of 50 and your delivery time buckets indicate that 25 items should be delivered in the morning and 25 in the afternoon, the standard lot of 50 is planned for the morning delivery.

See "Quantity and Date Calculations" on page 250.

Use Ship Delivery Time Inquiry (5.5.7.2) to review SDT codes and their associated delivery times.

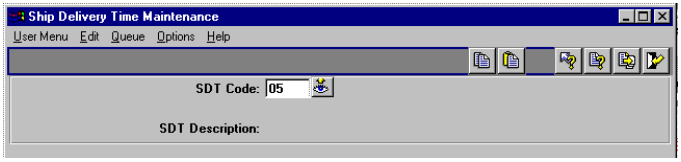


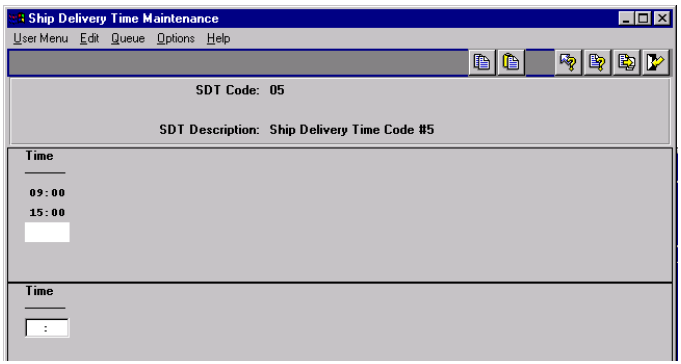
Fig. 20.4 Ship Delivery Time Maintenance (5.5.7.1)

SDT Code. Specify a one- to three-character identifier for this SDT code.

SDT Description. Optionally enter a description for this SDT code.

Press Go to proceed to the next frame. When you are modifying an existing SDT code, this frame displays the delivery times already associated with the SDT code. To associate delivery times with an SDT code, press Insert in this frame and specify a new delivery time in the Time field that displays.

Fig. 20.5
Ship Delivery Time Maintenance, Second Frame



Time. Specify a delivery time to associate with this SDT code using the 24-hour time format. For example, 9:00 AM is 09:00, 3:00 PM is 15:00, and 9:00 PM is 21:00.

In the example shown in Figure 20.5, for supplier shipping schedules with SDT code 05, you expect deliveries to be made twice per day, once at 9:00 AM and once at 3:00 PM.

Defining Scheduled Order Defaults for Specific Suppliers

See “Line Items” on page 239.

Use Supplier Controls Maintenance (5.5.7.4) to define scheduled order defaults for individual suppliers. Most of the values you enter here default to fields in the order line data frame of Scheduled Order Maintenance (5.5.1.13).

See “Setting Control File Values” on page 233.

You should define scheduled order defaults to avoid repetitive entry of the same supplier shipping and authorization information when creating scheduled orders. However, you only need to define supplier-specific control records for suppliers with special processing requirements. When you create a scheduled order for a supplier that does not have an associated set of defaults in Supplier Controls Maintenance, the system uses the default values defined in the Supplier Schedule Control File (5.5.7.24).

The Send Zero Requirements and Generate Zero Schedules values do not default to scheduled orders. These values indicate:

- Whether schedules that contain no item requirements are generated for the associated supplier by Schedule Update from MRP (5.5.3.1)

- Whether schedule detail lines with quantities of zero are included in schedules sent to the associated supplier

Most of the field values in this program initially default from the Supplier Schedule Control File.

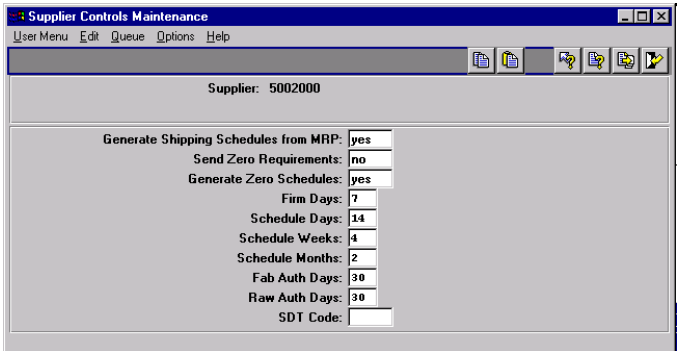


Fig. 20.6. Supplier Controls Maintenance (5.5.7.4)

Generate Shipping Schedules from MRP. This value indicates whether you typically generate shipping schedules for this supplier based on item requirement data from MRP. It sets the default for the corresponding field on scheduled orders created for this supplier.

See “Generate Ship Schedule From MRP” on page 244.

Send Zero Requirements. This field indicates whether schedule detail lines that do not contain item quantities (requirements) are included when a schedule is sent to this supplier using:

- Schedule Print (5.5.3.8)
- Schedule Print in Fax Format (5.5.3.9)
- Supplier Schedule Export (35.18)
- Supplier Shipping Schedule (35.21.4.8)

Yes: Schedules sent to suppliers can contain detail lines with zero requirements.

No: Only detail lines with nonzero quantities are included.

Generate Zero Schedules. This field indicates whether a schedule is created for this supplier when all detail line quantities (requirements) on that schedule are zero.

No: The system does not generate a supplier schedule when there are no detail line item requirements.

Yes: The system generates supplier schedules even when there are no detail line requirements. These schedules are called zero schedules.

When a zero schedule is generated, only one line of data is printed on it. This detail line has a quantity of zero. Zero schedules are generated only once for an item and supplier combination. Additional schedules are not generated for that item unless requirements exist for it.

In many environments, sending a zero schedule to a supplier indicates that the associated items are no longer needed. If this is true in your manufacturing environment, set this field to Yes.

See "Line Items" on page 239.

Firm Days, Schedule Days, Schedule Weeks, Schedule Months, Fab Auth Days, Raw Auth Days, SDT Code. These fields set the default values for their corresponding fields in Scheduled Order Maintenance (5.5.1.13) when a scheduled order is created for this supplier.

Creating Scheduled Orders

Scheduled orders define the parameters used to generate planning and shipping schedules for individual items that have been entered on separate scheduled order lines. They provide the framework for a shipping contract between customer and supplier, but have no delivery dates. When you run Schedule Update from MRP, the system uses item demand data from MRP to create planning and shipping schedules for scheduled order line items.

Use Scheduled Order Maintenance (5.5.1.13) to set up scheduled orders. After you enter an order ID and supplier code, five frames display. The first contains shipping and credit information for the whole order. The next four contain line item information such as item numbers, ship-to data, line item details, schedule details, and optional comments.

Header

See *User Guide Volume 7: Release Management* for details.

Several values in the header frame indicate how schedules generated based on this order will be delivered to suppliers. Schedules can be printed, transmitted via EDI or EDI ECommerce, or sent via FAX, depending on the values you specify. If you use EDI, some field values default from the values defined for the associated supplier in Trading Partner Parameters Maint (35.1).

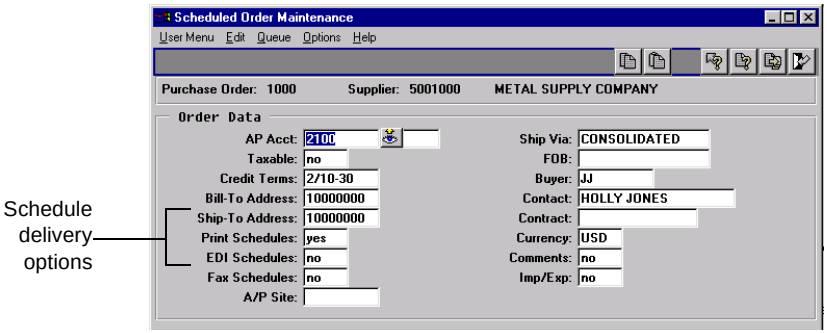


Fig. 20.7 Scheduled Order Maintenance (5.5.1.13), Header Frame

When you are finished entering values in the header frame, press Go to display the line item frame.

Line Items

Use fields in the first line item frame to specify an item to be ordered from the supplier and the site to receive that item. Unique line numbers enable you to enter more than one schedule line for the same item, if needed.

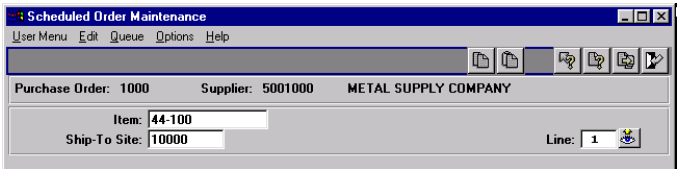


Fig. 20.8 Scheduled Order Maintenance, Item and Ship-To Site

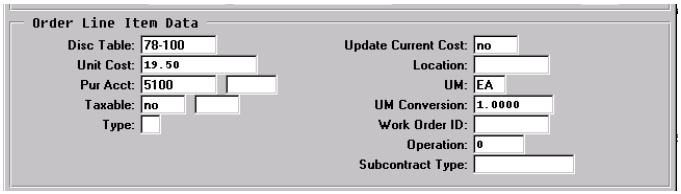
First Order Line Item Data Frame

Use fields in the first Order Line Item Data frame to specify pricing and inventory data for the item referenced in the previous frame.

Use the list/discount table pricing functions in the PO/RTS/Sched/RMA Rcpt Price Menu (1.10.2) to set up price lists for scheduled orders. The price from the applicable list displays in the Unit Cost field. Effective prices can be updated in Purchase Order Receipts (5.13.1) and PO Shipper Receipt (5.5.5.11). Set Update Current Cost to Yes to update current costs for inventory items during receipt.

See *User Guide Volume 6: Master Files* for details on price lists.

Fig. 20.9
Scheduled Order Maintenance, First Order Line Item Data Frame



Type. This value determines whether the associated line item is received into inventory and considered by planning.

- When Type is blank, the associated line item is received into inventory. When the receipt is processed, inventory balances are increased and a GL transaction debits the inventory account.
- A Type value of S indicates a subcontract operation. A work order number and operation are specified on the order and on the receipt. Rather than updating inventory, the receipt updates the work order operation status and creates a GL transaction debiting the WIP account from the work order. Use Subcontract Type to describe the type of operation performed by the subcontractor.

Second Order Line Item Data Frame

Use fields in the second Order Line Item Data frame to record data that impact the requirements and schedules generated for the associated line item. When you are finished specifying values in this frame, press Go to display the Shipping Schedule Info pop-up.

See “Defining Scheduled Order Defaults for Specific Suppliers” on page 236.

The values in Firm Days, Schedule Days, Schedule Weeks, Schedule Months, Fab Auth Days, and Raw Auth Days default from Supplier Controls Maintenance (5.5.7.4), if a record exists for the supplier. Otherwise, these field values default from the Supplier Schedule Control File (5.5.7.24).

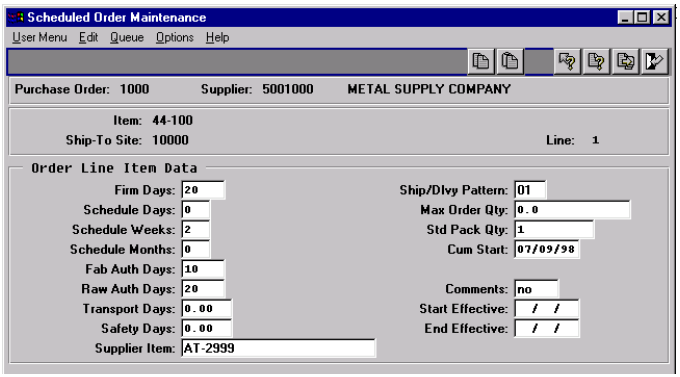


Fig. 20.10 Scheduled Order Maintenance, Second Order Line Item Data Frame

Firm Days. Specify the number of days in the schedule firm interval. For supplier shipping schedules, quantities and dates within this period are not changed by Schedule Update from MRP. These days should not exceed the number specified in Schedule Days.

For further details, see “Firm and Planned Requirements” on page 246.

Enter a positive value in this field if you want to explicitly track cumulative received quantities, or if you have an agreement with your supplier stipulating that requirements cannot change within a specific interval.

Note This value does not affect how MRP uses the Time Fence value defined for the item. Firm Days controls order releases by date and quantity. The item master Time Fence field controls planned orders by date and quantity.

Schedule Days, Schedule Weeks, Schedule Months. Schedule Update from MRP uses these values to determine the number of days, weeks, and months that display on schedules based on this order line. Shipping schedules are generated for the number of days specified in the Schedule Days field for this line. Planning schedules are generated to cover the sum of schedule weeks and schedule months.

For details on how these fields are used, see “Requirement Bucketing” on page 248.

When Schedule Days is zero on an order line, supplier shipping schedules are not generated for that line. When both Schedule Weeks and Schedule Months are zero for an order line, supplier planning schedules are not generated for that line.

Fab Auth Days, Raw Auth Days. These fields indicate the number of days the system uses to calculate fabrication authorization quantities (fab quantities) and raw authorization quantities (raw quantities) on

supplier planning schedules. The values you specify here are called *authorization horizons*.

Fab and raw quantities represent cumulative item requirements within the specified number of days since the active start date of their associated planning schedules. These authorization quantities help protect suppliers against sudden and unforeseen reductions in demand.

- Raw quantity is the quantity of product you commit to covering the component costs.
- Fab quantity is the quantity of product you commit to covering manufacturing costs.

These data are sent to the supplier as part of the planning schedule.

Note Schedule Update from MRP uses these values only if scheduled requirements extend beyond the number of days in the authorization horizon. Otherwise, authorization horizons are equal to the number of schedule days specified on the applicable scheduled order line.

Transport Days. This field is normally blank. Specify a value for suppliers who do not ship or take responsibility for shipping, but from whom you pick up or schedule the pickup of orders. Entering a value in Transport Days converts all order dates from receipt dates to shipment dates.

Schedule Update from MRP uses this value to set shipment dates based on delivery dates (delivery date – transport days). It then checks the supplier's calendar, if one exists, to verify that the shipment date is a workday for the supplier. If not, the update back-schedules to the next supplier workday.

All reports and inquiries check this field to verify whether to print or display delivery dates or shipment dates. When this value is positive, the system uses shipment dates.

Ship/Dlvy Pattern. This code specifies the default ship/delivery pattern (SDP). These industry-defined codes indicate the days of the week or month that a supplier is open to make shipments.

See "Quantity and Date Calculations" on page 250.

Ship/delivery patterns are used by Schedule Update from MRP to calculate the actual required dates that are used on supplier schedules. Once the required ship dates have been calculated, the required

quantities are divided into daily buckets according to the ship/delivery pattern specified on the scheduled order, if any.

SDP codes support both the Organization for Data Exchange by Teletransmission in Europe (ODETTE) and the Automotive Industry Action Group (AIAG) ship/delivery patterns. They are translated to the appropriate industry-standard codes during EDI conversion and transmission.

Std Pack Qty. Enter the multiple in which orders for this item are shipped. This is similar to Order Multiple in the item master. It displays here because the standard shipment multiple for an item can vary among suppliers. Schedule Update from MRP rounds order quantities up to this multiple.

Order Multiple should generally be blank in the item master for items that are referenced on scheduled orders, since both values are applied to orders during different planning functions (MRP and Schedule Update from MRP).

Cum Start. Enter the date on which this order began to accumulate quantities. This may or may not be the date on which the order was created in your database.

When a line item is first scheduled, the cumulative receipt quantity is zero and the cumulative start date is set to the active start date of the schedule. As receipts are processed, the system updates the cumulative receipt quantity.

Sometimes cumulative receipt quantities must be adjusted manually, usually as dictated by policy. For example, you may reset them to zero at the start of your new fiscal year using Cum Received Reset to Zero (5.5.5.14). The affected cumulative start dates are then changed to that date.

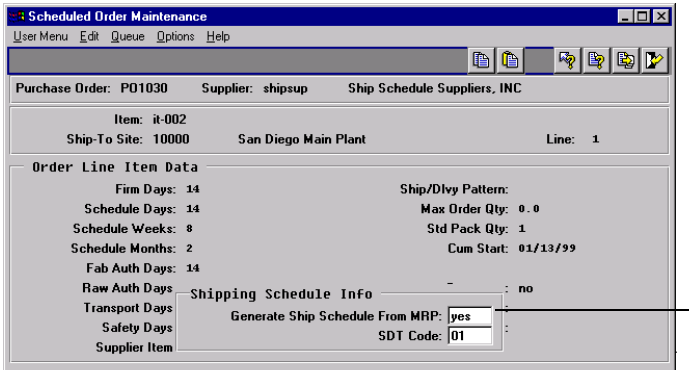
You can also adjust cumulative receipts manually to reflect returned or defective items or losses due to theft using Cumulative Received Maintenance (5.5.5.13). For example, when defective items are returned to the supplier, you may want to process a return and credit without decreasing cumulative quantity.

Shipping Schedule Info Pop-Up

Tip
The pop-up displays only when the Supplier Shipping Schedules module is active.

After the second order line item data frame, the Shipping Schedule Info pop-up displays. Values in this pop-up default from the corresponding fields in Supplier Controls Maintenance (5.5.7.4) when values have been defined for the supplier on the order. Otherwise, they default from the Supplier Schedule Control File (5.5.7.24).

Fig. 20.11
Shipping Schedule Info Pop-Up



This pop-up displays when Supplier Shipping Schedules is active.

See "Creating a Schedule Release from MRP" on page 245.

Generate Ship Schedule From MRP. This field indicates whether you generate supplier shipping schedules based on this order line.

Important To generate a shipping schedule for a scheduled order line, Schedule Days must have a nonzero value for that line.

Yes: When you run Schedule Update from MRP (5.5.3.1) with Generate Shipping Schedules set to Yes, a supplier shipping schedule is generated for this line. This shipping schedule covers item requirements for the specified number of schedule days.

No: Only planning schedules are generated for this line.

Note When you run Schedule Update from MRP with Generate Shipping Schedules set to No, shipping schedules are not generated for any scheduled order lines, regardless of how this field is set.

See page 234.

SDT Code. Enter the SDT code for Schedule Update from MRP to use to calculate exact delivery times on supplier shipping schedules.

Allocating Percentages for MRP

After you have set up the required supplier data and scheduled orders for each item, you must allocate order percentages among suppliers using Scheduled Order MRP % Maint (5.5.1.17). Total percentages for each item must equal 100%.

Schedule Update from MRP (5.5.3.1) uses the percentages you define for an item to allocate MRP planned orders for that item among suppliers.

See “Quantity and Date Calculations” on page 250.

Creating a Schedule Release from MRP

Use Schedule Update from MRP (5.5.3.1) to create releases of supplier schedules. A release is a set of item quantities (requirements) and requirement dates identified by a release ID number, which is then sent to your supplier. A single schedule release can include both planning and shipping schedules.

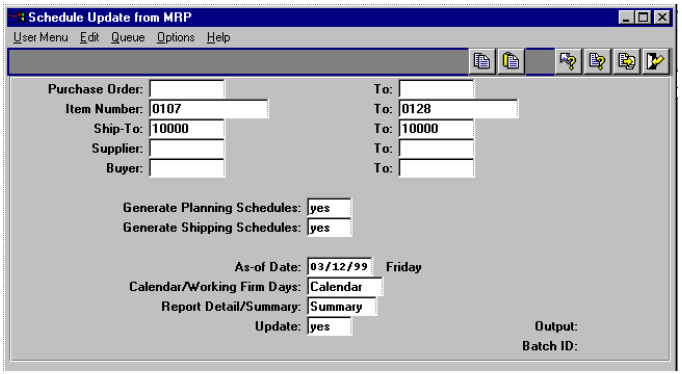
Schedule Update from MRP generates releases based on the following data:

- Planned purchase orders generated by MRP based on item requirements and due dates
- Item planning data, such as safety days
- Scheduled order percentages defined for items and ship-to sites in Scheduled Order MRP % Maint (5.5.1.17)
- Scheduled order data from Scheduled Order Maintenance (5.5.1.13)
- Supplier calendars, defined in Supplier Calendar Maintenance (5.5.1.1)

Note MRP planned orders for a co-product/by-product or a base process item cannot be used to update supplier schedules.

You can run Schedule Update from MRP for combinations of items, suppliers, scheduled orders, receiving sites, or buyers.

Fig. 20.12
Schedule Update from MRP (5.5.3.1)



Firm and Planned Requirements

On supplier schedules, item requirements can be either *firm* or *planned*. Requirements designated as firm are:

- Not replanned when Schedule Update from MRP is run
- Visible to MRP as scheduled supply, like discrete purchase orders

Requirements designated as planned are not considered sources of supply by MRP and may change when MRP is rerun. The schedules you send to suppliers can contain firm requirements only, planned requirements only, or a combination of both.

The schedule update process automatically applies a status of firm to item requirements that are:

See page 241.

- Within the number of firm days (firm interval) specified on the associated scheduled order line

See page 241.

- Within the schedule days specified on the scheduled order line

See “Manually Updating a Schedule Release” on page 252.

Schedule Update from MRP only designates shipping schedule requirements as firm. It does not designate item requirements on planning schedules as firm, even when planning schedule active dates are within the schedule firm interval. However, you can manually designate detail line quantities as firm on individual planning schedules, if required.

Any unreceived firm requirements from one release are automatically carried forward to the next release during schedule update. These quantities are maintained as a prior cumulative requirement.

Planned orders outside the firm days period are approved, but maintained as planned requirements. This means that they are not seen by MRP as sources of supply and can be replanned. When you rerun MRP, it plans or replans orders for scheduled requirements that are now within its planning horizon. Executing Schedule Update from MRP adds the new and updated planned orders, designating as firm any requirements that now fall within the Firm Days period.

If requirements change, you may need to manually adjust firm quantities in Supplier Shipping Schedule Maint (5.5.7.7) or Planning Schedule Maint (5.5.7.6).

See “Manually Updating a Schedule Release” on page 252.

- When increased demands create additional requirements within the Firm Days period, MRP creates planned orders in that period. When you regenerate the schedule, the system does not select any planned orders falling within the firm period covered by a schedule. The warning message `Order not selected` displays in the report.
- When requirements decrease due to decreased demands, MRP sees the supply as excessive and produces action messages.

You can avoid rescheduling problems due to fluctuations in short-term MRP data by setting Firm Days to zero on scheduled order lines. When Firm Days is zero:

See “Firm Days” on page 241.

- Firm requirements are not generated or carried forward from one release to the next.
- The system sets Prior Cum Req equal to Prior Cum Received.
- Each schedule release is based on the most recent MRP planned-order data available.

Use a positive number in the field if you have an agreement with this supplier that requirements will not change within a specified time period.

Important To avoid schedule discrepancies between printed bucketed schedules and the actual required schedule, firm days should never exceed the number of days specified in the Schedule Days field.

Requirement Bucketing

For information on type 4 schedules, see *User Guide Volume 7: Release Management*.

Item requirements on standard supplier schedules (type 4) are maintained as discrete dates and quantities in the database. The system does not bucket item requirements on these schedules until they are printed or transmitted to the supplier. Item requirements on supplier planning (type 5) and shipping schedules (type 6), however, are stored differently than those for type 4 schedules.

See "Schedule Days, Schedule Weeks, Schedule Months" on page 241.

When Schedule Update from MRP generates a schedule release, it uses the Schedule Days, Schedule Weeks, and Schedule Months values defined for applicable scheduled order lines to:

- Determine the length of time covered by the item requirements in planning and shipping schedules.

  Shipping schedules cover item requirements for the specified number of schedule days, while planning schedules cover requirements for the sum of schedule weeks and schedule months.

- Bucket item quantities on planning and shipping schedules.

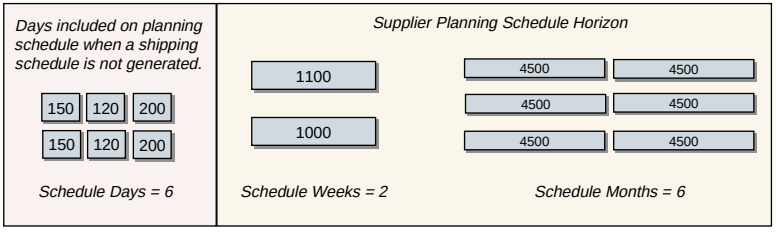
  Requirement buckets display on planning and shipping schedules as schedule detail lines. On shipping schedules, daily requirements are further divided into hour and minute buckets based on the SDT code associated with the applicable order line.

See "Defining Ship Delivery Time (SDT) Codes" on page 234.

Planning schedule requirements for the number of schedule weeks and months specified on the applicable order line reside in discrete bucketed quantities, as shown in Figure 20.13.

Note When you generate only planning schedules, applicable schedule days requirements are also included on each planning schedule.

Fig. 20.13
Supplier Planning Schedule Bucketing



See "Setting Up Supplier Calendars" on page 234.

Schedule Update from MRP always assigns the entire quantity in each weekly requirement bucket to the first day of the week on which the supplier is available, based on the supplier calendar set up in Supplier

Calendar Maintenance (5.5.1.1). For suppliers that do not have supplier-specific calendars, the standard shop calendar set up in Calendar Maintenance (36.3.5) is used.

When both Schedule Days and Schedule Weeks are positive on a scheduled order line, the number of daily buckets may extend beyond the number of schedule days defined on that line. This occurs so that the first schedule week will always begin on the first day the supplier is available.

Example A scheduled order, SCD 128, is created for supplier SUP886. For line 1 on this order, Schedule Days is 14 and Schedule Weeks is 4. Schedule Update from MRP is run with As-of Date set to 03/09/99, a Tuesday. The supplier calendar for SUP886 indicates that the first day of the week on which the supplier is available is Monday. So that weekly bucketing will start on a Monday, the system generates a shipping schedule covering 20 days rather than just 14.

For each monthly requirement bucket on a planning schedule, the system assigns the entire item quantity to the first Monday of the applicable month. When schedule weeks do not end on the last Sunday of the month, the number of weekly buckets on the planning schedule may extend beyond the number of schedule weeks specified for the applicable scheduled order line.

Shipping schedule requirements are stored in time buckets based on the SDT code for the number of schedule days indicated on the associated order line. An example is shown in Figure 20.14.

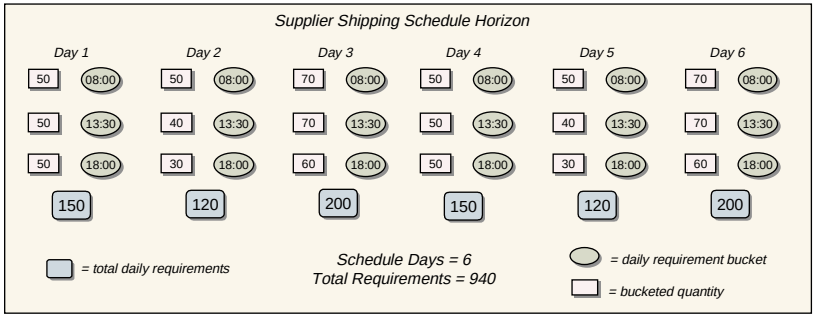


Fig. 20.14 Supplier Shipping Schedule Bucketing

Quantity and Date Calculations

Schedule Update from MRP performs the following calculations:

1. Back-schedule for safety days from planned order due dates.

See page 242.

2. Back-schedule for ship/delivery pattern from safety day schedule.

See page 234.

3. Back-schedule for supplier calendar from ship/delivery schedule.

See page 245.

4. Allocate planned order quantities by percentage to each supplier based on Scheduled Order MRP % Maint (5.5.1.17) to create new quantities by planned order.

See page 243.

5. Revise quantities to Std Pack Qty multiple.

6. Display any unfulfilled prior cumulative requirements.

See page 251.

7. Create a release, assign a Release ID and determine whether quantities are firm (within the Firm Days time fence) or planned.

See page 241.

8. Calculate fabrication and raw authorization quantities and start and end dates.

   The start date is the active start date. The end date is calculated by adding the number of days specified in Raw Auth Days and Fab Auth Days to this date. The quantity requirements between the active start date and the calculated end date are the schedule quantities displayed on the shipping schedule.

9. Generate a shipping schedule containing daily requirements. When an SDT code is specified, bucket quantities into the ship delivery times for each day.

   Shipping schedules are generated only when:

   - Scheduled days are specified in the scheduled order.
   - Generate Ship Schedules from MRP is Yes on the scheduled order line.
   - Generate Shipping Schedules is Yes in Schedule Update from MRP.

10. Allocate quantities using ship/delivery pattern.

See page 237.

11. Generate zero schedules if Generate Zero Schedules is Yes in Supplier Controls Maintenance (5.5.7.4). Once a zero schedule is created, it is not regenerated by any subsequent runs of Schedule

Update from MRP, unless MRP finds demand for the item. Zero requirement schedules are sent to the supplier only when Send Zero Requirements is Yes in Supplier Controls Maintenance.

12 Generate a planning schedule.

When you create a planning schedule but not the corresponding shipping schedule, the daily requirements display on the planning schedule as planned requirements. This only occurs when Schedule Days is greater than 1 on the applicable scheduled order line.

Release IDs

When Generate Date Based Release ID is Yes in the Purchasing Control File (5.24), Schedule Update from MRP generates supplier schedule release IDs based on the date their associated schedules were created or updated.

Tip
Date-based release IDs are not generated for manually created supplier schedules.

Eleven-digit date-based release IDs of the form YYYMMDD-xxx are generated using the following components:

- The four-digit year (YYYY)
- The two-digit month (MM)
- The two-digit day (DD)
- A three-digit incrementing release number (-xxx)

Example A schedule is generated on November 24, 1998, using Schedule Update from MRP. Based on this date, the system generates the following release ID: 19981124-001. If you generate a second release of the same schedule on that same day, the release ID is set to 19981124-002.

Report Options

When Report Detail/Summary is set to Detail, an audit report of the entire calculation is printed. Execute the function with Update set to No to preview the results before generating any schedules.

When Update is Yes, selected planned orders are automatically approved and a release is created. The new release can then be modified in Supplier Planning Schedule Maint (5.5.7.6) or Supplier Shipping Schedule Maint (5.5.7.7), or sent to your supplier.

Note Schedules cannot be updated in Schedule Maintenance (5.5.3.3) when the Supplier Shipping Schedules module is active.

Manually Updating a Schedule Release

Use Supplier Planning Schedule Maint (5.5.7.6) or Supplier Shipping Schedule Maint (5.5.7.7) to modify planning or shipping schedules. You can change schedule detail data such as requirement dates, quantities, firm or planned status, and fab and raw authorization quantities and dates.

Typically, Schedule Update from MRP (5.5.3.1) is used to generate planning and shipping schedules, but these two maintenance programs can also be used to manually create them.

See “Auto Update Plan From Ship” on page 233.

When Auto Update Plan From Ship is Yes in the Supplier Schedule Control File (5.5.7.24), supplier planning schedules are automatically updated by the system when you make changes to their associated shipping schedules.

When manual changes are made to the shipping schedule or the planning schedule, these changes are used to automatically update the corresponding type 4 supplier schedule so they can be taken into account by MRP the next time it is run. This update takes place regardless of any control-file setting.

The following discussion focuses on Supplier Planning Schedule Maintenance. Navigation and data entry in Supplier Shipping Schedule Maintenance is almost the same. Any differences are noted.

1 In the first frame, use the Purchase Order, Item, Supplier, Ship-To, and Line fields to identify a scheduled order. Enter the release to modify or leave Release ID blank and the current release ID defaults. If you are manually creating a new release for this schedule, enter a new release ID.

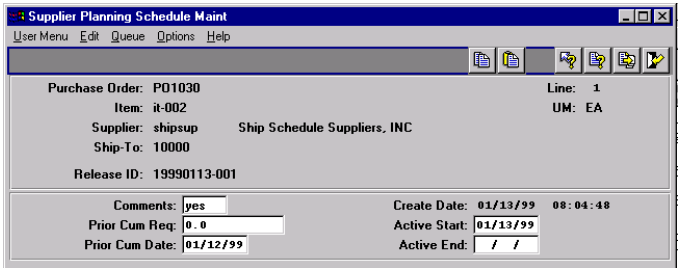


Fig. 20.15 Cumulative information Frame

The next frame shows the prior cumulative required and cumulative date. This is the total quantity you have requested from the supplier as of a certain date. The active start and end dates show when this release was active. The current active release has no date in the Active End field.

2 The Schedule Detail Data frame displays next. In Supplier Shipping Schedule Maint this frame displays without the Int field.

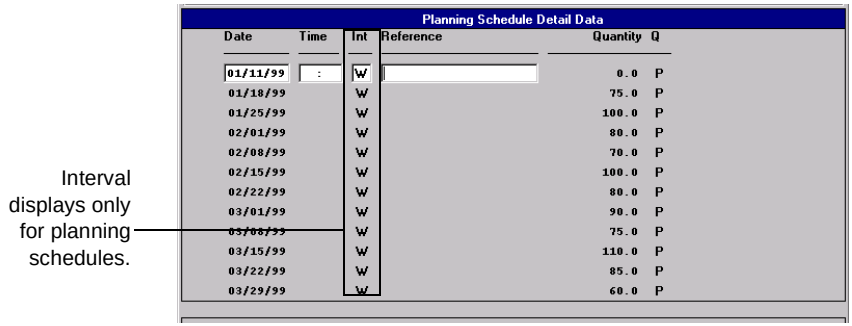


Fig. 20.16 Planning Schedule Detail Data Frame

Use this frame to create or modify schedule delivery dates, times, references, and firm or planned quantities. For planning schedules, you can also change the delivery interval type.

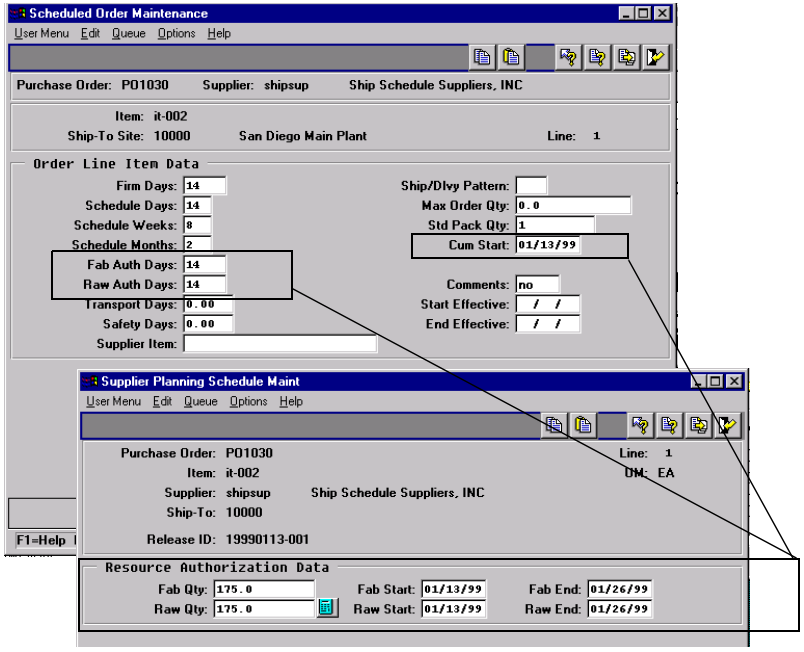
This is the last frame of Supplier Shipping Schedule Maint.

3 For planning schedules, the Resource Authorization Data frame displays next. The dates and quantities in this frame default from information in the scheduled order header (see Figure 20.17).

The fab and raw start and end dates indicate when the supplier is authorized to begin manufacturing or to begin purchasing raw materials to fill this order.

The Fab Qty indicates the quantity of finished items the supplier is authorized to produce for the time period. The Raw Qty indicates the quantity of manufactured items for which the supplier is authorized to purchase raw materials for the time period.

Fig. 20.17 Scheduled Order Maintenance (5.5.1.13) and Resource Authorization Frame (5.5.7.7)



Any changes you make in the Resource Authorization Data frame are applied only to this release of the planning schedule. To make changes that affect other releases, update the order in Scheduled Order Maintenance.

Transmitting Supplier Schedules

Transmitting a schedule release is the last step of the release process. You can transmit a release in various ways: using EDI or EDI ECommerce, sending it as hard copy, or via FAX.

Transmit the schedule release using:

- Supplier Schedule Export (35.18)
- Supplier Shipping Schedule (35.21.4.8)
- Schedule Print (5.5.3.8)
- Schedule Print in Fax Format (5.5.3.9)

A schedule that has been transmitted electronically with using Supplier Schedule Export in the EDI module or EDI ECommerce's Supplier Shipping Schedule is considered sent by the system. When you print a schedule release with Schedule Print or Schedule Print in Fax Format, you can optionally designate the printed schedule release as sent.

You cannot edit schedule releases designated as sent. This ensures that the release received by the supplier and the release in your system are identical.

Exporting Supplier Schedules

The program you use to export the schedule release to an ASCII text file that can be used for an EDI system transaction depends on which EDI option you are using.

- In the EDI module, use Supplier Schedule Export (35.18).
- In EDI ECommerce, use Supplier Shipping Schedule (35.21.4.8).

See *User Guide Volume 7: Release Management* for more information on supplier schedules, EDI, and EDI ECommerce.

Only supplier schedule type 5 and type 6 can be exported when the Supplier Shipping Schedules module is active. Only schedule type 4 can be exported when this module is not active.

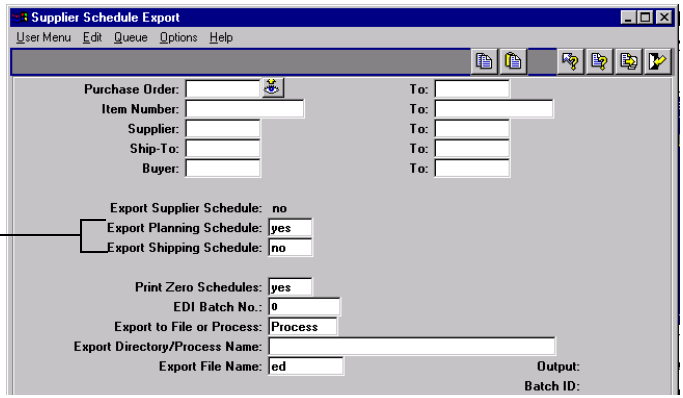
In the EDI module, schedules are exported for EDI only if EDI Schedules is Yes in the header of Scheduled Order Maintenance (5.5.1.13). Set up supplier-specific EDI information, including the EDI Schedules field default value, in Trading Partner Parameters Maint (35.1). Outbound

supplier shipping schedules use EDI document format 830. Supplier planning schedules use format 862.

When you are using EDI ECommerce, the system exports planning or shipping schedules to a supplier only if that supplier's record in Trading Partner Parameter Maint (35.21.13.10) specifies Yes for the appropriate schedule type. The EDI Schedules field in Scheduled Order Maintenance is used only by the EDI module.

Important The EDI and EDI ECommerce modules do not use the same programs or database tables. Be sure to use the programs appropriate to your EDI option. For example, use Trading Partner Parameters Maint (35.1) only with the EDI module. If you are using ECommerce, be sure to use Trading Partner Parameters Maint (35.21.13.10) on the ECommerce Setup Menu.

Fig. 20.18
Supplier Schedule Export (35.18)



These fields can only be updated when Supplier Shipping Schedules is active.

Export Supplier Schedule. This value determines whether standard MFG/PRO eB supplier schedules are exported via EDI. When the Supplier Shipping Schedules module is activated, this field is always No and cannot be updated. When the Supplier Shipping Schedules module is disabled, the default is Yes.

Export Planning Schedule. Enter Yes to export supplier planning schedules that match the selection criteria. When the Supplier Shipping Schedules module is deactivated, the default value is No and cannot be updated. When the Supplier Shipping Schedules module is activated, the default is Yes.

Export Shipping Schedule. Enter Yes to export supplier shipping schedules that match the selection criteria. When the Supplier Shipping Schedules module is deactivated the default value is No and cannot be updated. When the Supplier Shipping Schedules module is activated, the default is No.

Note Supplier Schedule Export is very similar to Supplier Shipping Schedule. However, Supplier Shipping Schedule does not include fields for directory and file names. In EDI ECommerce, this information is specified in control file and trading partner setup data.

Printing Supplier Schedules

Use Schedule Print (5.5.3.8) to print a schedule release as a material release to the supplier. Use the Schedule Type field to print type 5 or type 6 schedules. When the Supplier Shipping Schedules module is inactive, selection is limited to type 4 schedules only.

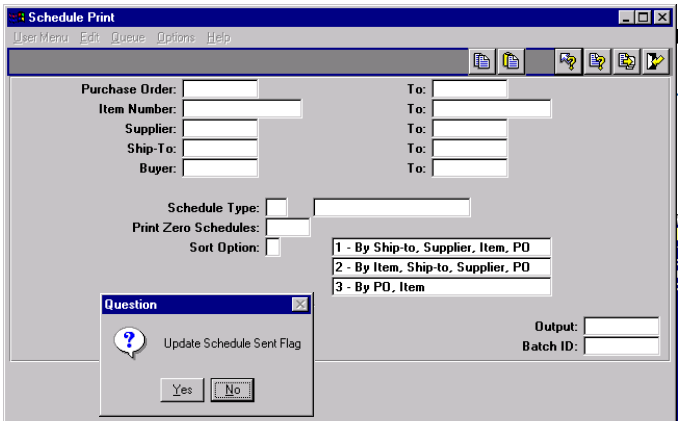


Fig. 20.19
Schedule Print (5.5.3.8)

You can print and review a schedule release any number of times before you actually transmit it. Indicate when the schedule has been sent to the supplier by responding Yes when prompted to update the Schedule Sent flag. To transmit the release, you can mail or deliver it.

Schedule Print creates the printed supplier schedule. The header of this document includes supplier and ship-to information, the release ID, purchase order number, item number, receipt quantity, and cumulative receipts. The ship/delivery pattern displays, then the order detail. The

detail shows any prior open quantities, including quantities in transit, and then each scheduled requirement.

For each line on the printed schedule:

- Req Qty is the discrete or bucketed quantity for that schedule line.
- Cum Req Qty is the total cumulative requirement, including that line quantity, for the entire life of the order.
- Net Req Qty is the total open quantity including that line quantity.

Fig. 20.20
Supplier Schedule Print Output

```
SUPPLIER SHIPPING SCHEDULE

  Supplier: 10032                              Ship-To: 10000
                                               Quality Products Inc.
                                               Manufacturing Division
                                               One World Way
                                               Consolidated Business Plaza
                                               Mount Laurel, NJ
                                               United States of America
  Attention:                                   Attention:
  Telephone:                                   Telephone:
  Fax/Telex:                                   Fax/Telex:

   Release ID: supt1s2                         Release Date: 12/18/98
Purchase Order: supt1                                Buyer:
  Item Number: car-0              UM: EA    In Transit Qty: 0.0
                                               Receipt Date:          13:15
                                                Receipt Qty: 0.0
 Supplier Item:                                Cum Received: 0.0
       Contact:
                                    Packing Slip/Shipper:

         Deliver  Deliver
Interval Date     Time    Reference  Q      Req Qty   Cum Req Qty  Net Req Qty
-------- -------- ------- ---------- - ------------ ------------ ------------
         Prior                                             0.0          0.0
         12/21/98                    f        500.0        500.0        500.0
         12/22/98                    f         60.0        560.0         60.0
         12/23/98                    f         30.0        590.0         30.0
         12/24/98                    f         55.0        645.0         55.0
         12/25/98                    f         30.0        675.0         30.0
```

Transmitting the Release by FAX

When you need to transmit a schedule release by FAX, use Schedule Print in Fax Format (5.5.3.9) to produce it. The orders printed by this program are sorted by supplier rather than by site/supplier. At the top of the first schedule for each supplier, a pound sign (#) prints, followed by the supplier's FAX number. The remainder of the information is the same as Schedule Print.

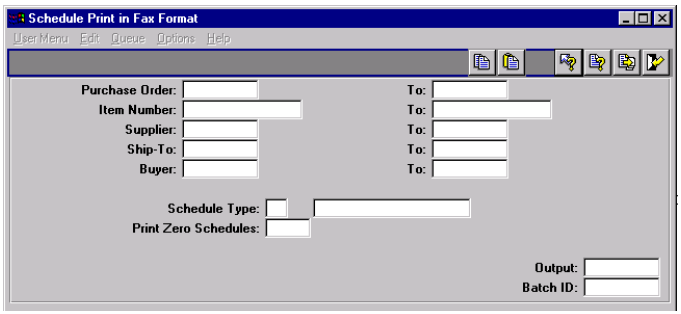


Fig. 20.21
Schedule Print in Fax Format (5.5.3.9)

Reviewing and Comparing Releases

PRO/PLUS offers updated review and comparison reports for viewing and analyzing schedule releases. Activating the Supplier Shipping Schedules module lets you use the Schedule Type field in the following programs to select the type of schedule to review.

- Supplier Schedule Export Aud Rpt (35.19)
- Schedule Comparative (5.5.3.15)
- Schedule Inquiry (5.5.3.4)
- Schedule Report (5.5.3.13)
- Schedule History Inquiry (5.5.3.5)

Note When the Supplier Shipping Schedules module is inactive, these programs continue to display PRO/PLUS-specific fields, but these fields are not editable.

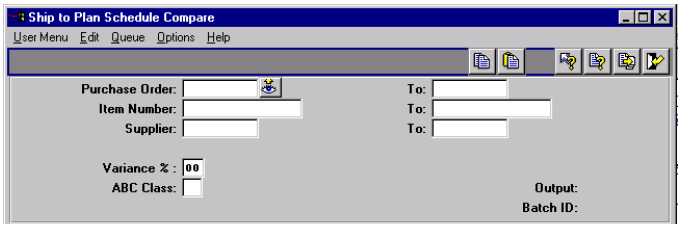
In addition, the following reports and inquiries are added by this module:

- Ship Delivery Time Inquiry (5.5.7.2)
- Ship Schedule Variance Compare (5.5.7.13)
- Ship to Plan Schedule Compare (5.5.7.14)

Comparing Shipping to Planning Schedules

Use Ship to Plan Schedule Compare (5.5.7.14) to compare active shipping schedules with their corresponding active planning schedules.

Fig. 20.22
Ship to Plan Schedule Compare (5.5.7.14)



Variance %. Optionally specify a variance percentage (1 to 99 percent) to report only item quantities on schedule detail lines that differ by this percentage or more. When this value is 0 (zero), any quantity variance is reported, regardless of variance percentage.

Variance percentage indicates the extent to which one schedule detail line varies from another, expressed as a percentage value. For example, if you execute a comparison program with all fields left blank, but with Variance % set to 5, the resulting report only includes releases where the schedules differ by five percent or more.

Tip
Assign ABC class codes to individual items using Item Master Maintenance (1.4.1).

ABC Class. Optionally specify an item ABC class to compare only schedule detail lines containing items that belong to that class. Valid values are A, B, or C.

You can combine this code with a variance percentage for reporting. For example, class A items might be reported at a two-percent variance while class C items are reported at a ten-percent variance.

Fig. 20.23
Ship to Plan Schedule Compare Output (5.5.7.14)

```
rsrp11.p            5.5.7.14 Ship to Plan Schedule Compare        Date: 01/19/99
Page: 1                          Global Industries                Time: 16:49:06


Order     Ln Item Number        Ship Release Id                Plan Release Id
--------- -- ------------------ ------------------------------ ------------------------------
po862b     1 862b               19990118-001                   19990118-001

Date     Ship Discrete Qty Plan Discrete Qty  Qty Diff Variance% Ship Cum Qty  Plan Cum Qty Cum Qty Diff Variance%
-------- ----------------- ----------------- --------- --------- ------------ ------------ ------------ ---------
01/18/99             105.0             100.0      -5.0        05        105.0        100.0         -5.0         05

Order     Ln Item Number        Ship Release Id                Plan Release Id
--------- -- ------------------ ------------------------------ ------------------------------
PO1127     1 kwc-a              19990118-005                   19990118-005
```

Comparing Schedule Releases

Use Schedule Comparative (5.5.3.15) to compare any two releases of the same schedule that reside in the system.

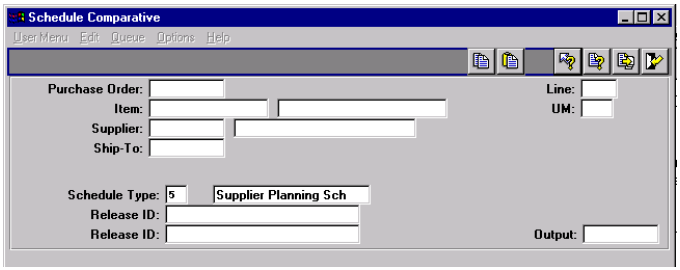


Fig. 20.24 Schedule Comparative (5.5.3.15)

```
 Purchase Order: PO1030                                        Line:  1
          Item: it-002                                           UM: EA
      Supplier: shipsup   Ship Schedule Suppliers, INC
       Ship-To: 10000

                                  Release ID                    Release ID
                                  --------------------------    --------------------------
                                  19990111-001                  19990113-005

Date     Time  Int Reference             Discrete    Cumulative       Discrete    Cumulative
                                               Qty           Qty Q          Qty           Qty Q     Qty Diff Cum Qty Diff
-------- ----- --- ----------------- ----------- ------------- - ------------ ------------- - ------------ ------------
Prior                                                      0.0                           0.0
01/11/99       W                            0.0           0.0 P
01/13/99 08:00 D                            0.0           0.0 F
01/14/99 08:00 D                            0.0           0.0 F
01/18/99                                                                 75.0          75.0 F         75.0         75.0
01/18/99       W                           75.0           0.0 P                                      -75.0         75.0
01/25/99                                                                100.0         175.0 F        100.0        175.0
01/25/99       W                          100.0           0.0 P                                     -100.0        175.0
02/01/99                                                                 80.0         255.0 P         80.0        255.0
02/01/99       W                           80.0           0.0 P                                      -80.0        255.0
02/08/99                                                                 70.0         325.0 P         70.0        325.0
02/08/99       W                           70.0           0.0 P                                      -70.0        325.0
02/15/99                                                                100.0         425.0 P        100.0        425.0
02/15/99       W                          100.0           0.0 P                                     -100.0        425.0
02/22/99                                                                 80.0         505.0 P         80.0        505.0
```

Fig. 20.25 Schedule Comparative Output

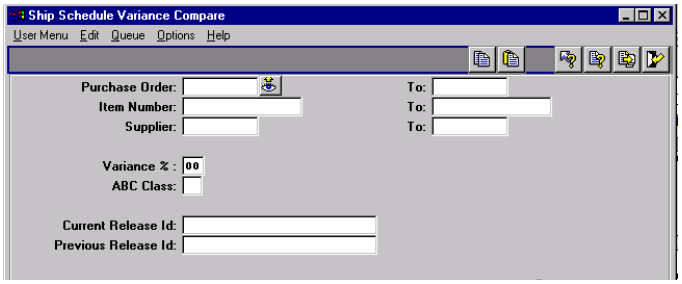
Use Schedule Type to select which schedule type to compare. You must specify two specific release IDs for the schedule releases you are comparing.

Note When the Supplier Shipping Schedules module is inactive, you cannot compare type 5 or type 6 schedules.

Comparing the Current Release with the Prior Release

Use Ship Schedule Variance Compare (5.5.7.13) to compare the current type 6 shipping schedule release with the prior shipping schedule release.

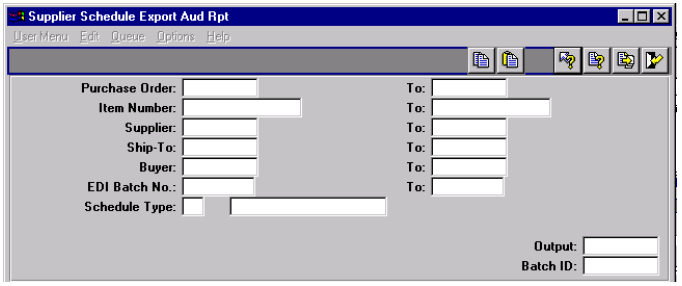
Fig. 20.26
Ship Schedule Variance Compare (5.5.7.13)



Reviewing EDI Data

Use Supplier Schedule Export Aud Rpt (35.19) to review EDI data details for any exported schedules. You can search and review schedules by EDI batch number, buyer, or any other selection criteria.

Fig. 20.27
Supplier Schedule Export Aud Rpt (35.19)



When the Supplier Shipping Schedules module is active, the audit report output displays an additional data column that details the type of schedule being reported (see Figure 20.28). When this module is inactive, the extra detail column does not display.

Fig. 20.28
Supplier Schedule Export Aud Rpt Output

```
edexrp04.p              35.19 Supplier Schedule Export Aud Rpt       Date: 03/15/99
Page: 1                           Quality Products Corp.             Time: 15:26:55

Supplier Item No Ship-To Order Ln Release ID   EDI Date   EDI Time   Batch Type
-------- ------- ------- ----- -- ----------   ---------  ---------  ----- ----
00201    88-100  10000   PO111  1 19990225-001 02/25/98   15:11:30   41    36 Plan
00201    88-100  10000   PO111  1 19990225-001 02/25/98   15:11:30   41    36 Ship
```

Deleting and Archiving Schedules

Use Schedule Delete/Archive (5.5.3.23) to delete and archive unneeded or inactive schedule releases. When you delete or archive schedules while the Supplier Shipping Schedules module is active, your changes affect all three supplier schedule types. When this module is inactive, the delete/archive program affects only supplier schedules (type 4).

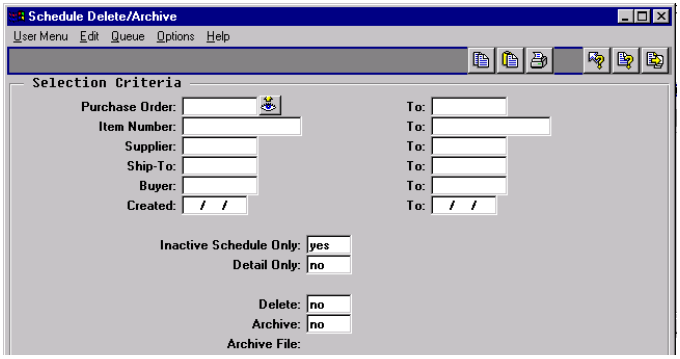
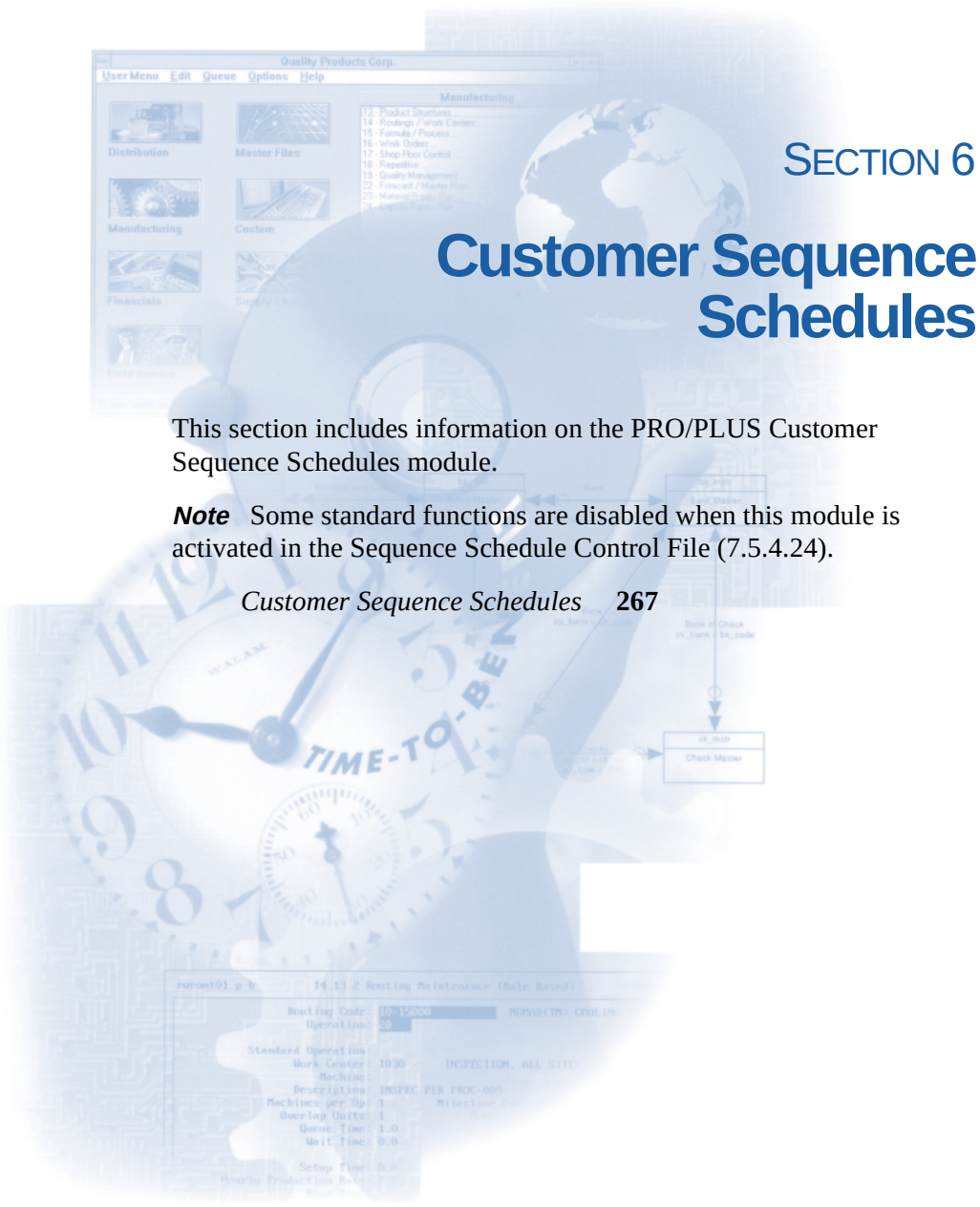


Fig. 20.29 Schedule Delete/Archive (5.5.3.23)

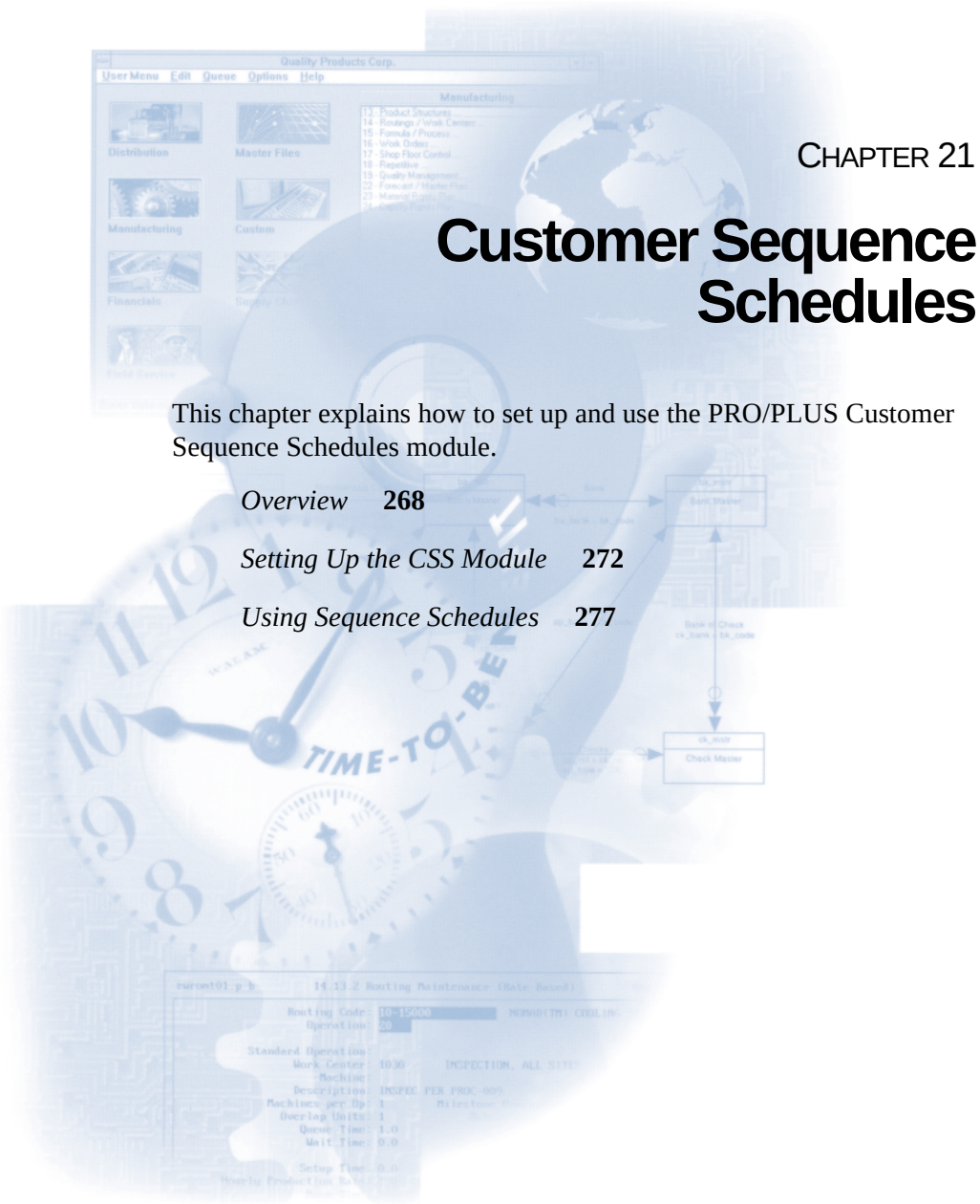


SECTION 6

Customer Sequence Schedules

This section includes information on the PRO/PLUS Customer Sequence Schedules module.

Note Some standard functions are disabled when this module is activated in the Sequence Schedule Control File (7.5.4.24).



CHAPTER 21

Customer Sequence Schedules

This chapter explains how to set up and use the PRO/PLUS Customer Sequence Schedules module.

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Overview

MFG/PRO eB supports customer shipping and planning schedules, which convey short-term and long-term customer requirements. The PRO/PLUS Customer Sequence Schedules (CSS) module lets you receive and process shorter term, more detailed customer sequence schedules—EDI document type 866.

A customer sequence schedule provides a detailed, short-term view of a customer's planned requirements. These requirements typically span no longer than a week, and are sent to you, the supplier, in the order that your customer's manufacturing environment plans to consume them.

Customer Sequence Schedules Features

With the CSS module, you can:

- Set up default customer schedule details, and then tailor defaults for individual customers as needed.
- Receive incoming customer sequenced schedules using standard EDI or EDI ECommerce.
- Selectively include sequenced requirement information on:
  - Picklists
  - Pre-shippers
  - Shippers
  - Invoices
  - Advanced ship notices (ASN)
  - Required ship schedules
- View variances between shipping or planning schedules and sequence schedules or between different releases of a sequence schedule.
- Generate sequence packing lists automatically when creating pre-shippers and shippers. Print sequence packing lists in forward or reverse order.
- Maintain detailed picking records for all sequenced requirements.
- Maintain multiple sequence schedule releases.

Additionally, you can use the Self-Billing module to receive payments based on the customer reference number associated with each sequence.

See “Self-Billing” on page 69.

Reviewing Sequence Schedules

Sequence schedules have specific characteristics.

- The schedule is typically made up of one or more days. Each day contains a sequenced list of items to be delivered.
- The schedule contains one or more items. The sample schedule in Table 21.1 contains different types of seats, by color and style. For other suppliers, such as an air-conditioner supplier with a single product, the schedule contains one item.
- Each item in the schedule is a separately orderable item and is already defined by a customer scheduled order line. Scheduled order number and line are not part of the sequence schedule transmission. The customer purchase order number is part of the transmission.
- Each sequence within the schedule contains one or more items. In Table 21.1, since a vehicle needs both front and rear seats, the schedule identifies both items as a combination by giving them the same sequence number. Notice that the vehicle identification numbers (VIN) are the same for matching sequences.
- Each item within the sequence can be delivered to different line feed locations. The schedule in Table 21.1 has two line feeds, one for the front seats (LF210) and one for the back seats (LF211). The seats are required at the same time, but must be sent to separate locations on the assembly line.
- The schedule can contain one or more exception items. The schedule in Table 21.1 has a sequence 9990, which contains a special order item. Exceptions are usually indicated in the schedule by customer-specified status codes. The exceptions are handled outside the normal sequence processing and are delivered separately.

Table 21.1 Sample Customer Sequence Schedule

Sequence	Quantity	Item	VIN	Line Feed
1	2	red bucket seat	ABC123	LF210
1	1	red rear seat	ABC123	LF211
2	2	green bucket seat	DEF435	LF210
2	1	green rear seat	DEF435	LF211

Sequence	Quantity	Item	VIN	Line Feed
3	1	blue bench seat	XYZ789	LF210
3	1	blue rear seat	XYZ789	LF211
4	1	green bench seat	AEG434	LF210
4	1	green rear seat	AEG434	LF211
5	2	blue bucket seat	JWZ551	LF210
5	1	blue rear seat	JWZ551	LF211
...				
499	2	green bucket seat	ZTV331	LF210
499	1	green rear seat	ZTV331	LF211
500	2	blue bucket seat	UIV331	LF210
500	1	blue rear seat	UIV331	LF211
9990	1	plaid prototype	IWV515	LAB

Sequence Schedule Programs

PRO/PLUS Customer Sequence Schedules adds the following menu-level programs.

Table 21.2
CSS Programs

Menu	Label	Program
7.5.4.1	Customer Controls Maintenance	adccmt.p
7.5.4.2	Customer Controls Inquiry	adcciq.p
7.5.4.5	Sequence Schedule Maintenance	rcsqscmt.p
7.5.4.6	Sequence Schedule Inquiry	rcsqsciq.p
7.5.4.7	Sequence Schedule Report	rcrp05.p
7.5.4.10	Sequence Pre-Shipper–Automatic	sosqsl.p
7.5.4.11	Sequence Shipper Report	rcsqrp03.p
7.5.4.13	Sequence Cross-Ref Maintenance	rcsqsxmt.p
7.5.4.14	Sequence Cross-Ref Report	rcsqsxrp.p
7.5.4.16	Sequence Schedule Variance Rpt	rcsqrp01.p
7.5.4.17	Plan/Ship Sequence Variance Rpt	rcsqrp02.p
7.5.4.22	Sequence Schedule Detail Delete	rcsqscdl.p
7.5.4.24	Sequence Schedule Control File	rcsqpm.p

PRO/PLUS Customer Sequence Schedules modifies the following programs.

Table 21.3 Programs Modified by CSS

Menu	Label	Program
7.3.13	Scheduled Order Maintenance	rcsomt.p
7.3.14	Scheduled Order Inquiry	rscoiq.p
7.3.15	Scheduled Order Report	rcsorp.p
7.5.5	Required Ship Schedule Update	rcrsup.p
7.5.6	Selective Required Ship Schedule Update	rcrssup.p
7.5.20	Shipment History Report	rcrp08.p
7.5.23	Schedule Delete/Archive	rcdel.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
7.9.3	Pre-Shipper/Shipper Inquiry	rciq03.p
7.9.4	Pre-Shipper/Shipper Print	rcrp13.p
7.9.5	Pre-Shipper/Shipper Confirm	rcsois.p
7.9.6	Pre-Shipper/Shipper Report	rcshrp01.p
7.9.8	Sales Order Shipper Maintenance	rcshmt.p
7.9.9	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 Unconfirm	rcunis.p
7.9.22	Shipper Gateway	rcshgw.p
7.13.2	Pending Invoice Register	soivrp.p
7.13.3	Invoice Print	sosorp10.p
7.13.4	Invoice Post	soivpst.p
7.13.12	Closed Invoice Reprint	soivrp10.p
27.6.12.1	Self-Bill Maintenance	arsbmt.p
27.6.12.4	Self-Bill Auto Create	arsbac.p
27.6.12.10	Self-Bill Discrepancy Report	arsbrp02.p
27.6.12.13	Self-Bill Report	arsbrp.p
27.6.12.15	Shipment-Invoice Crossref Report	arsbsirp.p
35.5	ASN Export	edexasn.p
35.8	Invoice Export	edexinv.p
35.13	Document Import	edimport
35.21.1	Document Import	edixsnf.p

Menu	Label	Program
35.21.4.1	Shipment ASN Export	edomasn.p
35.21.4.3	Invoice Export	edominv.p
35.21.15.6	Exchange Definition Maintenance	edxfmt.p
35.21.15.10	MFG/PRO Definition Maintenance	edmfmt.p
35.21.15.13	Implementation Definition Maint	edmimt.p
35.21.15.17	Transformation Definition Maint	edtrmt.p

Setting Up the CSS Module

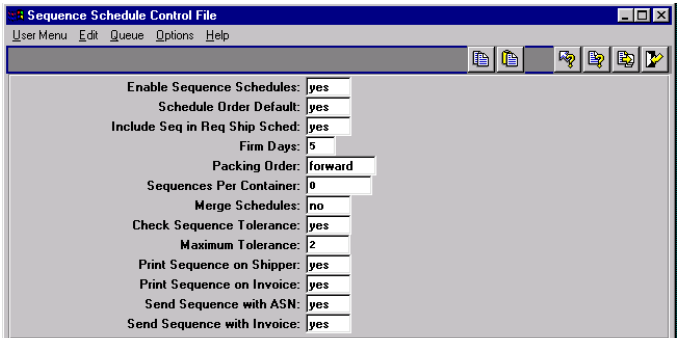
With this module, you set up system-wide defaults in the Sequence Schedule Control File (7.5.4.24). You then use Customer Controls Maintenance (7.5.4.1) to set up customer control records for customers that should have different values than the system-wide control file values.

When you initially activate the CSS module, various programs are automatically updated to be used with this module (Table 21.3). If you deactivate CSS after you initially activate it, the modified programs function as they did before they were updated.

Setting Control File Values

Use the Sequence Schedule Control File (7.5.4.24) to activate the Sequence Schedules module and define general default values for all customers that use sequence schedules.

Fig. 21.1
Sequence Schedule Control File (7.5.4.24)



Schedule Order Default sets a default value for the Sequenced field in Scheduled Order Maintenance (7.3.13). All other field values in the Sequence Schedule Control File default to corresponding fields in Customer Controls Maintenance (7.5.4.1). You can modify the defaults you define here as needed for individual customers in Customer Controls Maintenance.

Use the following field descriptions to guide you through the control file setup.

Enable Sequence Schedule. Enter Yes to enable the Customer Sequence Schedules module.

Schedule Order Default. Enter Yes if you typically create customer schedules with sequence information in your manufacturing environment.

The value you specify here defaults to the Sequenced field in Scheduled Order Maintenance, where it determines whether the scheduled order contains sequence information. You can change it as needed for individual orders.

Include Seq in Req Ship Sched. Enter Yes to include sequence schedule data in required ship schedules (RSS).

This sets the default value for the same field in the Sequenced Delivery Data frame in Scheduled Order Maintenance, unless a customer control record has already been created for the ship-to on the scheduled order. In this case, the value defaults from the customer control record.

Firm Days. Enter the number of work days from the sequence schedule that should be used to create the required ship schedule for planning purposes.

Tip
This field applies only when Include Seq in RSS is Yes.

Enter 0 (zero), the default, to use the entire sequence schedule to generate the required ship schedule. When you specify more days than are available on the sequence schedule, the entire schedule is used.

Example One of your customers works 6-day weeks. That customer sends 8 weeks of sequenced shipping data, but you want to consider only the first 2 weeks as firm shipping requirements. In this case, you would enter 12 in the Firm Days field.

This value defaults to Customer Controls Maintenance, when you set up control records for specific ship-to addresses. It also defaults to Scheduled Order Maintenance if a customer control record is not available.

Packing Order. Indicate the order in which to print packing lists for sequenced requirements, Forward or Reverse.

Sequences Per Container. Specify the maximum number of sequences that can fit in a container. This value is used by Pre-Shipper/Shipper–Automatic and Sequence Pre-Shipper–Automatic to display breaks between multiple containers.

This value must be the default 0 (zero) or any positive number.

Example A customer uses uniform containers that can hold 10 sequences each and a pre-shipper is built containing 50 sequences. The sequence packing list will display 5 groups of 10 sequences. This is a guide to help the loading-dock worker know how many containers to pack.

Merge Schedules. Specify whether the open requirements of the currently active schedule should be combined with the new incoming schedule during EDI or ECommerce document import.

This option is used when customers send future requirements to add to the current schedule but do not send existing requirements previously sent on another schedule.

Yes: The incoming schedule is combined with the currently active schedule to create a new release containing the open requirements from both schedules.

No: The incoming schedule becomes the active schedule. The open requirements from the previous release are not considered.

Check Sequence Tolerance. Enter Yes to have the system check schedule sequence numbers for gaps. Specify the size of acceptable gaps in Maximum Tolerance. The system issues a warning if it detects numbering gaps greater than the value specified.

When set to Yes, the system checks for gaps when you:

- Import a sequence schedule
- Manually add sequences to a schedule in Sequence Schedule Maintenance

Example This field is Yes and Maximum Tolerance is 2. You process a schedule with sequences 1, 2, 5, 6, 7. No warning message displays because only two numbers are missing. However, with Maximum Tolerance set to 1, the same sequence generates a warning.

Some environments use alphanumeric sequence numbers. In these cases set Check Sequence Tolerance to No because the system cannot check alphanumeric sequence range integrity. The system issues a warning whenever the value is set to Yes, and an alphanumeric sequence number is processed.

Maximum Tolerance. Enter the maximum allowable size of the gap in consecutive sequence numbers on a schedule. When Check Sequence Tolerance is Yes, the system issues a warning when it detects numbering gaps greater than the value specified.

Tip
When Check Sequence Tolerance is No, the system disregards this field.

Enter 0 (zero) to issue a warning whenever any gaps in sequence number are found.

Print Sequence Range on Shipper. Specify whether to print the range of sequence numbers when printing shippers. The range of sequence numbers included on the shipper prints immediately following the list of items being shipped.

Example You confirm and print a shipper that has 111 sequences. The sequences included on the shipper are sequences 1 to 10, 20, and 25 to 125. Set this value to Yes to print the following three sequence ranges on the shipper.

01 to 10

20 to 20

25 to 125

Print Sequence Range on Invoice. Specify whether to print the range of sequence numbers included on the invoice. This is the same range printed on the shipper.

Send Sequence with ASN. Specify whether sequences should be included when advanced ship notices (ASN) are transmitted using EDI or Ecommerce.

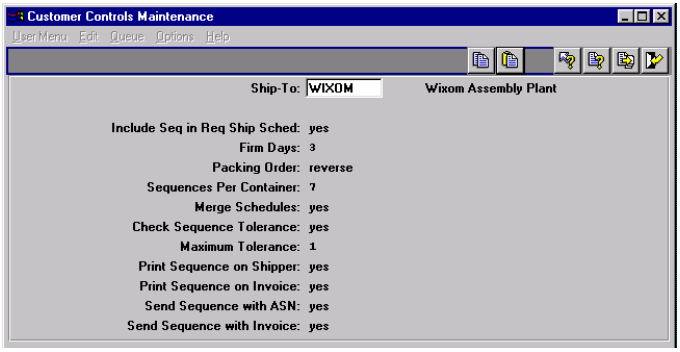
Send Sequence with Invoice. Specify whether sequences should be included when invoices are transmitted using EDI or Ecommerce.

Creating Customer-Specific Defaults

Use Customer Controls Maintenance (7.5.4.1) to create customer control records. These are customer-specific default values that are different from those specified in the control file. You normally set up customer control records when the values in the control file do not match the needed values for a specific customer.

Example The value in the control file indicates that packing lists are always printed in reverse order. However, you have a customer who requires packing lists printed in forward order. In this case, create a record in this program for this customer, indicating Forward in Packing List. When a packing list is generated for this customer, it is printed in forward order.

Fig. 21.2
Customer Controls Maintenance (7.5.4.24)



See “Setting Control File Values” on page 272.

Except for Ship-To, all fields in this program are identical to the corresponding fields in the control file. All field values default from the control file. The control file values represent the system-wide settings. The settings here represent the values for the indicated ship-to only. These values default to any sequence schedules created for the ship-to address.

Using Sequence Schedules

The CSS module can be efficiently used for just-in-time manufacturing environments, such as high production repetitive environments. As a supplier, you can use the added sequence details to optimize planning and the sequenced shipping and delivery of your customer's requirements.

For example, in a just-in-time manufacturing environment such as automotive manufacturing, the supplier provides seating and interior systems directly to the original equipment manufacturer (OEM). The OEM schedules the production of vehicles, including colors and options. These requirements as well as the order in which they are required, are sent to the supplier in a production sequence schedule, or 866 document.

Figure 21.3 shows a typical customer sequence schedule work flow in a supplier's environment.

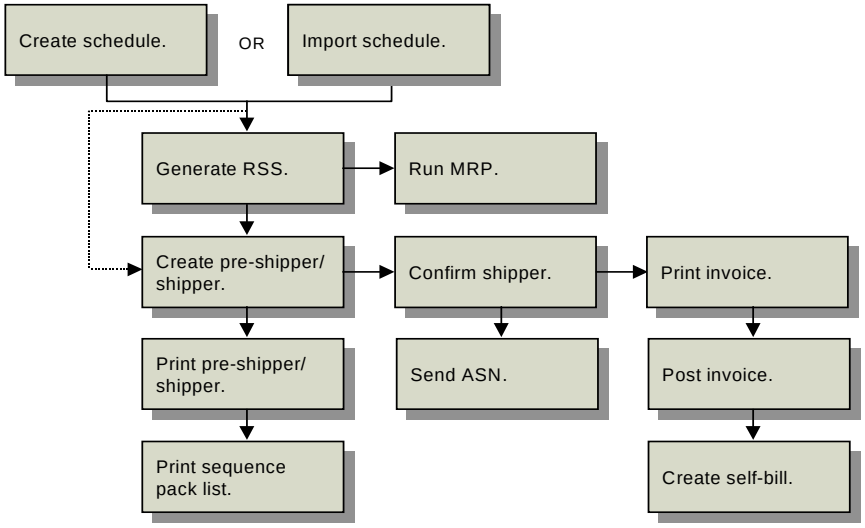


Fig. 21.3 Customer Sequence Schedules Work Flow

The supplier normally receives sequence schedules into the system using EDI or EDI ECommerce. Then the supplier uses the sequence schedule to plan and pick material to be shipped to the customer. Using the information contained on the customer sequence schedule, the supplier packs and ships the material when the OEM needs it and in the order the OEM plans to consume it.

Including sequence information on the ASN or invoice gives both the supplier and customer better visibility of the goods being shipped and received. Sequence information on the ASN or invoice can be used for self-billing purposes.

Importing Sequence Schedules

See *User Guide Volume 7: Release Management.*

When using EDI, use Document Import (35.13) to import customer sequence schedules. When using ECommerce, use Document Import (35.21.1).

Importing Shipping Data from External Systems

See *User Guide Volume 2: Distribution.*

Use Shipper Gateway (7.9.22) to import an ASCII-formatted file containing records that represent containers, pre-shippers, shippers, and sequence schedule lines. To support importing of sequence information, the format for the shipper gateway file includes fields for customer sequence information.

Some environments use external systems to manage and maintain detailed sequence information that includes sequence numbers. When you import that information, the system looks for the corresponding sequence to pick from the internal scheduled order. If the corresponding sequence is not found, then it picks the next available sequence.

Modifying a Sequence Schedule Release

Use Sequence Schedule Maintenance (7.5.4.5) to create a new sequence schedule release or to modify an existing schedule imported using Document Import (35.13, 35.21.1) or Shipper Gateway (7.9.22).

Use the first frame to identify the sequence schedule, including the ship-from, ship-to, and release ID. A scheduled order must already exist for the ship-from and ship-to combination. Create a new release of an existing schedule by indicating a new release ID. Enter an existing release ID to modify a schedule release already in the system.

Use the next frame to edit or enter new schedule details such as create date, packing order, and the number of sequences per container. Use the active start and active end dates to activate or deactivate the schedule release.

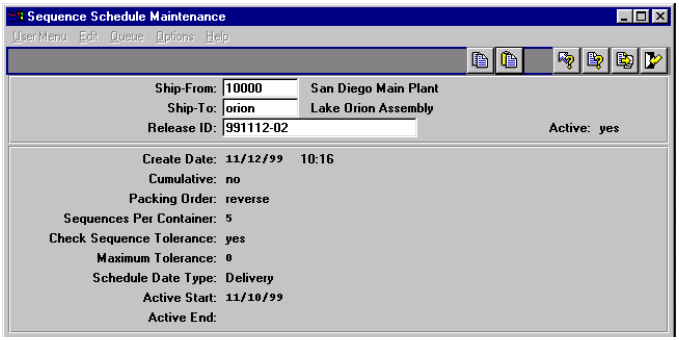


Fig. 21.4
Sequence Schedule Maintenance Header (7.5.4.5)

Release ID. Enter the customer sequence schedule release ID (up to 30 characters). Release ID is normally transmitted to you by the customer.

If you leave this field blank, the current active release ID is used.

When you create a new schedule release by entering a new release ID for an existing ship-from and ship-to combination, special processing occurs.

- The system prompts you to copy data from the active schedule to the new schedule.
- If you respond Yes, the system checks whether any sequences from the active release have already been picked.
- If sequences have been picked, the system prompts you to create cross-references between the sequences on the new release and the corresponding references on the active release.

If you modify an inactive schedule, the system prompts you to make that schedule active.

Active. This value indicates whether this schedule is the active schedule. There can be only one active schedule at any time for a ship-from/ship-to combination.

Cumulative. Indicate whether schedule quantities are cumulative or discrete.

Yes: Schedule quantities are cumulative quantities. Cum Quantity can be updated in the schedule detail.

No: Schedule quantities are discrete quantities. Quantity can be updated in the schedule detail.

Packing Order. Specify whether sequence packing lists for this customer ship-to should be printed in forward or reverse order on schedule reports.

Sequences Per Container. Specify the maximum number of sequences that fit in a container. This value is used by Picklist/Pre-Shipper–Automatic (7.9.1) and Sequence Pre-Shipper–Automatic (7.5.4.10) to display breaks between multiple containers.

Example A customer uses uniform containers that can hold 10 sequences each and a pre-shipper is built containing 50 sequences. The sequence packing list will display 5 groups of 10 sequences. This is a guide to help the loading-dock worker know how many containers to pack.

Check Sequence Tolerance. Enter Yes to have the system check schedule sequence numbers on this schedule for gaps. Specify the size of acceptable gaps in Maximum Tolerance. The system issues a warning if it detects numbering gaps greater than the value specified.

Example For example, this field is Yes and Maximum Tolerance is 2. You process a schedule with sequences 1, 2, 5, 6, 7. No warning message displays because only two numbers are missing. However, with Maximum Tolerance set to 1, the same sequence generates a warning.

Tip
When Check Sequence Tolerance is No, the system disregards this field.

Maximum Tolerance. Enter the maximum size of the gap in consecutive sequence numbers that is allowable for schedules associated with this customer ship-to. When Check Sequence Tolerance is Yes, the system issues a warning if it detects numbering gaps greater than the value specified. See the example above.

Note Some environments use alphanumeric sequence numbers. In these cases, set Check Sequence Tolerance to No because the system cannot check alphanumeric sequence range integrity. The system issues a warning whenever the value is set to Yes and an alphanumeric sequence number is processed.

Enter 0 (zero) to issue a warning whenever any gaps in sequence number are found.

Schedule Date Type. Specify whether the dates referenced on the sequence schedule are delivery or shipment dates.

- Shipment date indicates the date when the customer's truck or delivery service will pick up the shipment from your shipping dock.
- Delivery date indicates the dates when the shipment must arrive at the customer's site or dock.

Note When setting up ship/delivery dates you should always check for manufacturing and delivery lead times. These lead times can delay delivery to the customer site. Programs that create or update the required ship schedules consider lead times when calculating ship/delivery dates.

Modifying and Adding Sequences and Details

Use the Sequence Detail Data frame to edit or create new sequence records. You can also mark existing sequences as Deleted. The system allows you to delete any sequence record that is not picked or cross-referenced to a picked sequence on another schedule release.

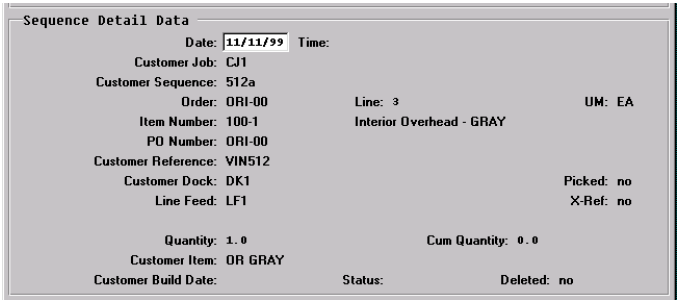
When you mark a sequence as deleted, the system makes that record inactive for the schedule. To permanently delete a sequence record from a schedule, use Sequence Schedule Detail Delete (7.5.4.22).

When you create a new schedule release by entering a new release ID in the first frame, the system prompts whether to copy data from the active schedule to the new schedule. If you accept, it checks whether any sequences from the active release have already been picked. It prompts whether to create cross-references between the sequences on the new release and the corresponding references on the active release.

See "Managing Duplicate Sequence Requirements" on page 283.

You cannot pick references from the new release that are cross-referenced to sequences on the active release. These cross-referenced sequences have already consumed their requirements. Any sequences that have Deleted set to Yes are not copied to the new schedule.

Fig. 21.5
Sequence Detail Data Frame (7.5.4.5)



See “Managing Duplicate Sequence Requirements” on page 283.

If you indicate that cross-references should not be created, then the system copies all sequences from the active schedule to the new schedule. Any sequence records previously marked as picked or cross-referenced are reset. By resetting these sequences, the system considers them as open requirements. When you finish creating the new schedule release, the system prompts you to make the new schedule active.

Normally, sequences are not created at the supplier site. Most customer delivery sequence information is imported into the system using EDI or EDI ECommerce. Many of the fields in the Sequence Detail Data frame are used as reference by the customer, and have little impact on your processing of the order.

You can optionally use the customer-defined Customer Dock and Line Feed field values as sort criteria when generating pre-shippers and shippers.

Reporting Sequence Schedule Information

Use the following reports to review and compare sequence schedule information.

- Use Sequence Schedule Inquiry (7.5.4.6) to display all sequences on a sequence schedule release.
- Use Sequence Schedule Report (7.5.4.7) to review a complete sequence schedule release.
- Use Sequence Schedule Variance Report (7.5.4.16) to compare two sequence schedule releases.
- Use Plan/Ship Sequence Variance Report (7.5.4.17) to compare specific item requirements on the active sequence schedule to those on the active shipping or planning schedule release.

Managing Duplicate Sequence Requirements

In some situations, the same sequence may be reported on separate schedule releases. For example, you send the last requirements of the day, but your customer creates and sends the new sequence schedule while those requirements are in transit. The new schedule will contain some of the same requirements again, since they have not arrived at the customer site.

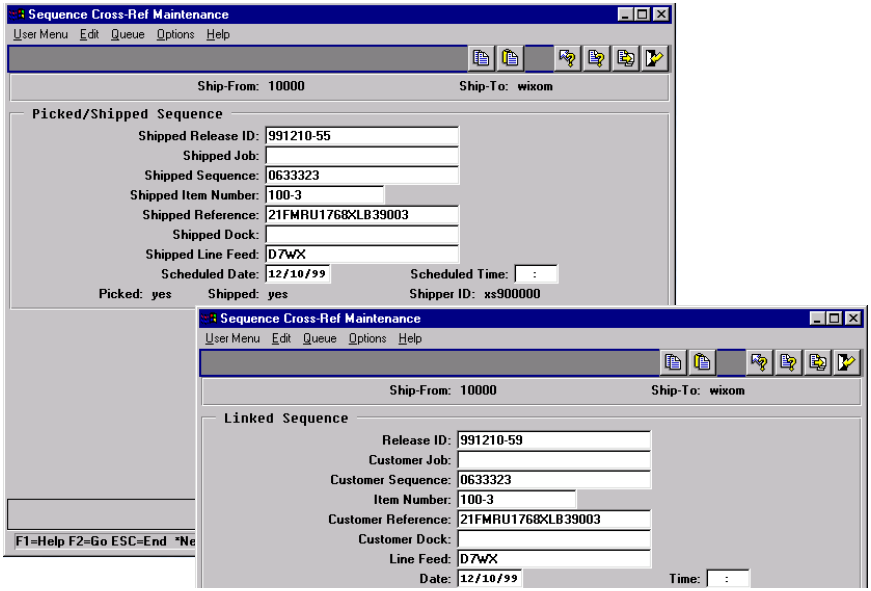
Normally, the system automatically creates a cross-reference from the new duplicate sequence to the picked sequence when the sequence schedule is initially imported into the system. However, if the item number, customer reference, customer dock, or line feed on the new duplicate sequence does not match the picked/shipped sequence values, the cross-reference is not created.

Creating Cross-References

Use Sequence Cross-Ref Maintenance (7.5.4.13) to manually create cross-references from duplicate sequences on one schedule release to the picked/shipped sequence on another schedule release. You can also create cross-references to sequences marked as deleted, or sequences that have already been cross-referenced to previously picked/shipped sequences.

After indicating the ship-from and ship-to sites, use the selection criteria on the Picked/Shipped Sequence frame to select the sequence that was previously picked. You can use the up and down arrows to scroll through all the sequence schedule releases and lines that exist for the ship-to and ship-from site combination.

Fig. 21.6
Sequence Cross-Ref Maintenance (7.5.4.13)

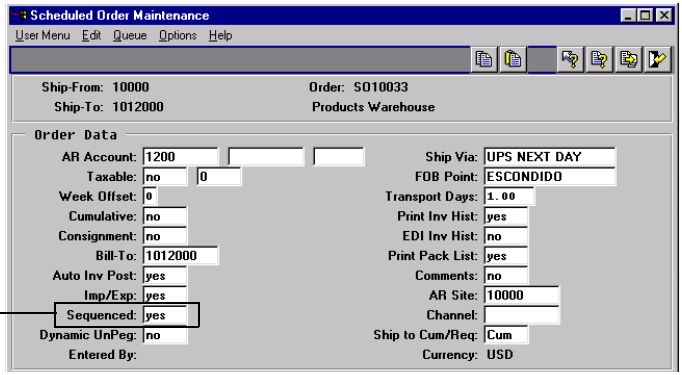


The Linked Sequence frame displays next. The field values on this frame refer to the information for the duplicate sequence on the new sequence schedule release. Enter the appropriate values as needed. The system creates a cross-reference link from the picked sequence to the duplicate sequence. The new cross-referenced sequence cannot be picked. The system considers this sequence to be a closed requirement.

Use Sequence Cross-Reference Report (7.5.4.14) to report the cross-reference records you create manually as well as any cross-reference records created automatically when sequences are imported through EDI, ECommerce, or the shipper gateway.

Referencing Sequence Lines on Scheduled Orders

Use Scheduled Order Maintenance (7.3.13) to create scheduled orders that reference sequence schedule lines. Use the Sequenced field in the Order Data frame to indicate that the scheduled order references sequence schedule lines. You cannot update the Sequenced field unless CSS is active.



Use this field to indicate whether the scheduled order contains sequences.

Fig. 21.7 Sequenced Field in Scheduled Order Maintenance (7.3.13)

When you update a scheduled order that has Sequenced set to Yes, the Sequenced Delivery Data frame displays. Use this frame to specify whether sequence schedule data should be included when generating the required ship schedule (RSS), and if so, how many firm days of that data should be used.

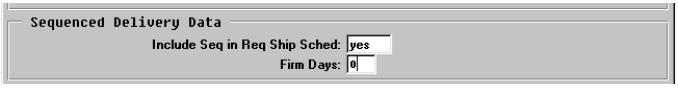


Fig. 21.8 Sequenced Delivery Data Frame

Include Seq in Req Ship Schedule. Indicate whether sequence delivery data should be included when the RSS is generated. This value defaults from the customer control record, if one exists, or the Sequence Schedule Control File.

Firm Days. When Include Seq in Req Ship Schedule is Yes, this field indicates the number of firm day requirements from the sequence schedule that Required Ship Schedule Update or Selective Req Ship Sched Update should include when generating the RSS.

Firm Days defaults from the customer control record, if one exists, or the Sequence Schedule Control File.

When you enter more days than are available on the sequence schedule, the maximum available days are used. Enter 0 (zero) to indicate that all available sequence schedule days should be included.

This value affects the way requirements are bucketed on the RSS. When the Req Sched Days value indicated on the scheduled order line exceeds the days indicated here, the system does the following:

- Calculates the difference between this value and the value indicated on the scheduled order line.
- Buckets the daily sequenced requirements on the RSS, for the number of days indicated on the scheduled order line.

Updating the Required Ship Schedule

Use Required Ship Schedule Update (7.5.5) to generate a new release of the RSS. If Include Seq in Req Ship Schedule is Yes on the scheduled order, the number of firm days indicated are included in the new RSS release. This program updates the RSS release with sequence schedule data only if Sequenced is Yes in the scheduled order being processed.

When you process a scheduled order line, the system checks whether it is associated with a sequence schedule line. This is determined by the Sequenced field setting in Scheduled Order Maintenance. If the scheduled order line is part of a sequence schedule and Sequenced is Yes, sequence schedule-specific netting logic is used to create the RSS release. Netting logic methods work differently when sequences are associated with the scheduled order line.

Option 1: Use Shipping Schedule

The RSS is made up of the sequence schedule days specified in Firm Days in the Sequence Delivery Data frame in Scheduled Order Maintenance. The shipping schedule is appended to the end of these sequence schedule days. The beginning of the ship schedule is replaced by the number of days specified in Firm Days on the scheduled order.

Option 2: Use Planning Schedule

The RSS is made up of the sequence schedule days specified. The planning schedule is appended to the end of the sequence schedule dates. The beginning of the planning schedule is replaced by the number of days specified in Firm Days on the scheduled order.

Option 3: Replace Logic

The RSS is made up of the sequence schedule days specified, followed by the shipping schedule, then the planning schedule.

If you are using this option and Use Ship/Plan PCR is Yes in the Customer Schedules Control File (7.3.24), the system maintains cumulative quantities for the sequence, shipping, planning, and required ship schedules.

The cumulative quantity for the previous week's planning schedule (prior cumulative quantity) is compared with the current RSS cumulative quantity. If there is a difference because the planning schedule cumulative quantity is greater, then the system adds this difference to the current week's planning schedule cumulative quantity. This assures that the current week's planning schedule cumulative quantity is always up to date.

Option 4: Consume Logic

The RSS is made up of the sequence schedule days specified, followed by the shipping schedule, then the planning schedule. The system maintains cumulative quantities for the sequence, shipping, planning, and required ship schedules. The cumulative quantities of the sequence and shipping schedules are used to ensure that the weekly requirements from the planning schedule are accounted for or consumed.

The system follows these steps when generating the RSS:

- The sequence schedule is processed first. Cumulative quantities are calculated for the sequence schedule.
- The shipping schedule is processed next. The dates and quantities from the shipping schedule are appended to the end of the sequence schedule.
- The planning schedule is processed next. The cumulative quantities for each week of the planning schedule are compared to the weekly quantity of the sequence and shipping schedule.
- If the weekly cumulative quantity of the sequence or shipping schedule is less than the weekly planning quantity, then that schedule is updated to match weekly planning quantity. To do this, the system

adjusts the last entry in the week by the difference of the two schedules. The remaining dates and quantities from the planning schedule are appended to the end of the shipping schedule.

- If the weekly cumulative quantity of the sequence/shipping schedule is greater than or equal to the planning schedule for the week, then no adjustments are made.
- The dates and quantities from the planning schedule are appended to the end of the sequence/shipping schedule.

Calculations with Netting Logic 1, 2, or 3

If you are using netting logic 1, 2, or 3 and a sequence or shipping schedule ends in the middle of the weekly planning interval, any open requirements on the planning schedule are moved to the next available open date using the following steps:

- The system first calculates the amount of weekly requirements from the sequence/shipping schedule.
- It then compares this to the weekly planning requirements. If the weekly requirements exceed the sequence and/or shipping scheduled requirements, then the difference is added to the next open date.
- The system calculates the next open date using the customer calendar and adding one day to the last sequence or shipping requirement in the week.
- A new requirement is created on this day and contains the open requirements from the weekly planning schedule. If the next open date falls into the following week, then no adjustments are made because the week has ended.

Note This applies only if SDP codes are not being used for the schedule.

Example The planning schedule begins on Monday, the first day of the week. The sequence/shipping schedule ends on Wednesday. The schedules overlap three days: Monday, Tuesday, and Wednesday. The system finds the difference between the three-day requirements from the sequence/shipping schedule and the three-day requirements for the planning schedule. If the planning schedule requirements exceed the sequence/shipping schedule requirements, it moves that amount of planning requirements to Thursday, the next available open date.

When you generate an RSS release that contains sequences, these sections appear on the RSS report:

- Customer Sequence Schedule Required Quantities
- Netting Options
- Seq Schedule Adjustment For Plan Schedule Overlap
- Combined Schedule
- Schedule Dates Backward Adjusted for Customer or Ship-To Calendar

Updating Specific Required Ship Schedules

Use Selective Required Ship Schedule Update (7.5.6) to create a specific RSS release that includes any associated sequence schedule. Specify the sequence schedule release ID to use in Sequence Schedule Release ID. Only sequence lines associated with the specific scheduled order lines are used. Required ship schedules that include sequence schedule data are generated as described in the previous section.

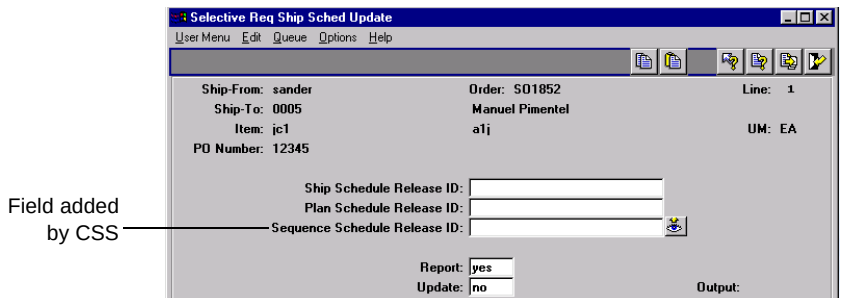


Fig. 21.9
Sequence Schedule Release ID Field

Including Sequences on Picklists and Pre-Shippers

Use Picklist/Pre-Shipper–Automatic (7.9.1) to build shippers with or without sequence data.

To generate a shipper containing sequences, the system follows these steps:

- Determines the open quantity from the unpicked sequences in the sequence schedule using the number specified in Firm Days to limit the number of sequences from the active release to include. The open quantity does not include any sequences that have been picked, cross-referenced, or have Deleted set to Yes.
- Performs allocations and picks inventory for the open quantity, marking each sequence as picked.
- Moves picked sequences into multiple pre-shippers if either or both line feed and customer dock are specified.
- Prints each pre-shipper with the first section displaying gross quantities by part. The following section displays the sequences in sequential order and any related information. If the sequences are being delivered to a customer dock or line feed, then that information prints on the first section of the pre-shipper.
- Prints the sequenced packing list in forward or reverse order, as indicated in the customer control record, or if one does not exist, as specified in the Sequence Schedule Control File.
- Shows breaks between sequences as specified in Sequences Per Container in the customer control record or if one does not exist, as specified in the Sequence Schedule Control File.

When creating a sequenced picklist, the Picklist/Pre-Shipper Sequence Pack List section on the printed document displays sequence information.

Creating Sequenced Pre-Shippers

Use Sequence Pre-Shipper–Automatic (7.5.4.10) to create pre-shippers for one or a range of sequence schedules. The selection criteria for this program applies only to sequence schedules. To create pre-shippers for ranges of both sequenced and non-sequenced schedules, use Picklist/Pre-Shipper–Automatic (7.9.1).

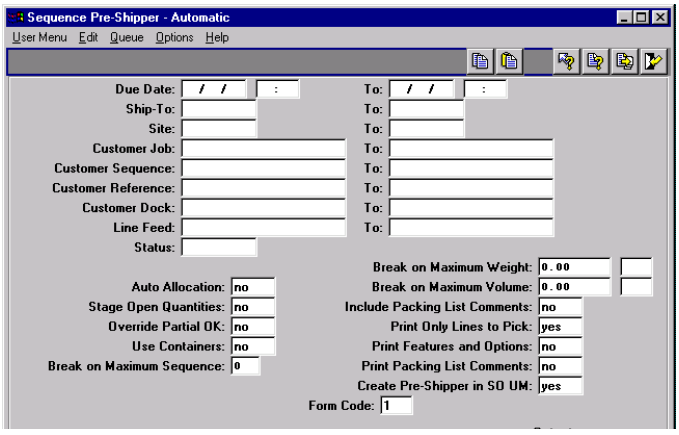


Fig. 21.10 Sequence Pre-Shipper–Automatic (7.5.4.10)

Sequence Pre-Shipper–Automatic selects sequences from active schedules. The sequences must match the selection criteria, and cannot be marked as deleted, picked, or cross-referenced. It arranges the sequences by ship/delivery date and destination and creates the pre-shippers as needed. All processing occurs as in Picklist/Pre-Shipper–Automatic (7.9.1).

Sequenced pre-shippers are printed as two documents:

- The first document displays the total gross requirements. This is the same as the one produced by Picklist/Pre-Shipper–Automatic.
- The second document shows all the sequence information in order by sequence.

Status and the selection criteria ranges refer to sequence schedule information. Most of the fields on the bottom half of the screen are the same fields found in Picklist/Pre-Shipper–Automatic.

See *User Guide Volume 2: Distribution.*

Break on Maximum Sequence. This is an optional control field used to specify the maximum number of sequences allowed on a shipper.

The default is 0 (zero). Leave this value to indicate that the shipper can contain an unlimited number of sequences.

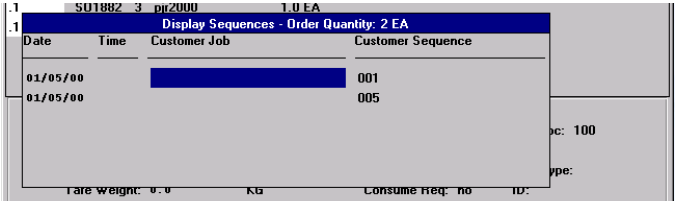
When adding a sequence to a shipper, the system first checks to make sure that this number of sequences has not been reached on the shipper. When a shipper reaches this number of sequences, a new shipper is created. Any additional sequences are added to the new shipper.

Maintaining Sequences on a Pre-Shipper/Shipper

Use Pre-Shipper/Shipper Workbench (7.9.2) to view and add or delete sequences from a pre-shipper/shipper.

The Display Sequences frame shows all the sequences on the pre-shipper/shipper. This frame displays only if the pre-shipper/shipper contains sequences. If it does not, but the scheduled order does contain sequences, the Add Sequences frame displays (See Figure 21.12).

Fig. 21.11
Display Sequences Frame



To remove any of these sequences from the pre-shipper/shipper, scroll to the sequence to delete and press Delete. Once you confirm the delete, the system removes the sequence from the list and updates the sequence record, setting it as an open requirement.

Tip
Use the up/down arrows to scroll the sequence list.

When you initially add a shipper line to a pre-shipper/shipper using this program, the system always displays the Add Sequences frame. This frame is used to add sequences to the pre-shipper/shipper.

To add additional sequences to the pre-shipper/shipper, press Add; the Add Sequences frame appears. Use the Customer Job, Sequence, Reference, Dock, and Line Feed fields to indicate the sequence that should be added to the pre-shipper/shipper.

Only sequences from the active schedule release that are not marked as deleted, picked, or cross-referenced can be added to the pre-shipper/shipper. When you add a new sequence to the pre-shipper/shipper, that sequence is marked as having been picked.

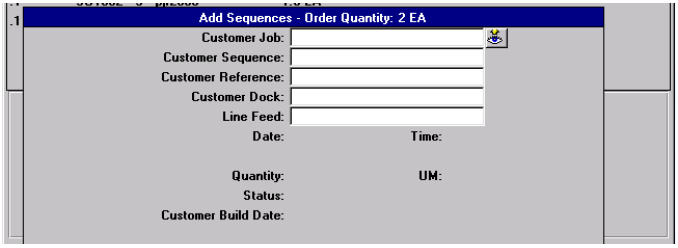


Fig. 21.12 Add Sequences Frame

To review sequence details, scroll to the sequence and press Enter. The Display Sequence Detail frame shows related details for the sequence selected.

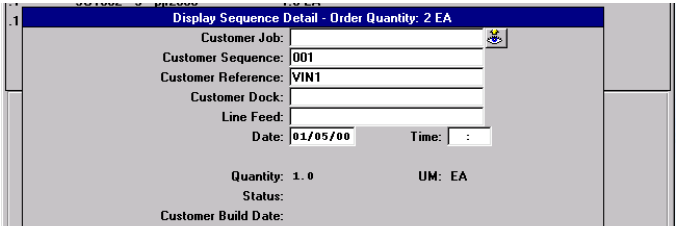


Fig. 21.13 Display Sequence Detail Frame

With Pre-Shipper/Shipper Workbench, you can optionally print the completed pre-shipper/shipper. A range of sequence numbers associated with the pre-shipper/shipper prints on the document as indicated in Print Sequence Range on Shipper in the customer control record for the ship-to, or the Sequence Schedule Control File. After the pre-shipper/shipper is printed, a sequence packing list is also printed automatically on a separate page.

You can also use Pre-Shipper/Shipper Print (7.9.4) to print the pre-shipper/shipper. It also prints a separate packing list and can include the associated range of sequence numbers. When you print the pre-shipper, you can optionally convert it to a shipper by setting Assign Shipper Numbers to Yes. Any sequences on the shipper are updated with the shipper number. This program processes the printing of the pre-shipper/shipper in the same way as the Pre-Shipper/Shipper Workbench.

Use Undo Shipper Number Assignment (7.9.20) to reverse shipper number assignments for unconfirmed shippers. This restores the original pre-shipper number and changes the document type from shipper back to pre-shipper. It also updates the pre-shipper/shipper number on sequences associated with the shipper.

Maintaining Sequences in Containers

See "Maintaining Sequences on a Pre-Shipper/ Shipper" on page 292.

Use SO Container Maintenance (7.7.5) to view and add or delete sequences from a sales order container. The frames used in Pre-Shipper/ Shipper Workbench (7.9.2) also display here. You view, add, and delete sequences for a container the same way you would for pre-shipper/ shippers.

Maintaining Sequences on Sales Order Shippers

Use Sales Order Shipper Maintenance (7.9.8) to view and add or delete sequences from a sales order shipper.

See "Maintaining Sequences on a Pre-Shipper/ Shipper" on page 292.

The frames used in Pre-Shipper/Shipper Workbench (7.9.2) also display here. You view, add, and delete sequences from a SO shipper the same way you would for pre-shipper/shippers. This program processes the printing of the sales order shipper the same way as Pre-Shipper/Shipper Workbench.

You can also use Pre-Shipper/Shipper Print (7.9.4) to print the completed sales order shipper, which includes the associated sequences. Printing of the sales order shipper is processed in the same way Pre-Shipper/Shipper Workbench processes the printing of a pre-shipper/shipper.

Confirming and Unconfirming Shippers

See *User Guide Volume 2: Distribution.*

Use Pre-Shipper/Shipper Confirm (7.9.5) to record shipments of orders and to:

- Convert pre-shippers into shippers.
- Create, print, and post invoices based on shipments.

See *User Guide Volume 7: Release Management.*

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 either EDI or EDI ECommerce.

When you confirm a sequenced order, the associated sequences are marked as confirmed. If you create an invoice for a sequenced order, then a range of the sequence numbers included on the order may print on the invoice. Additionally, this sequence number range may also be included when you export a shipper as an ASN. The inclusion of sequence number ranges is dependent on the customer control record or Sequence Schedule Control File settings.

Use Shipper Unconfirm (7.9.21) to reverse all the sequence related 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 reconfirmed.

Sending ASN Documents with Sequence Information

Use ASN Export (35.5) or Shipment ASN Export (35.21.4.1) to export the ASN from your system. An exported ASN can optionally include any sequence information associated with it. The inclusion of sequence information is dependent on the setting in Send Sequence with ASN in a ship-to's customer control record, or in the Sequence Schedule Control File.

See *User Guide Volume 7: Release Management.*

Posting, Exporting, and Printing Invoices

When you post an invoice using Invoice Post (7.13.4), the system checks whether any sequences are associated with that invoice. If the invoice references shipments of sequenced items, then the sequence shipper records are updated with a reference to the invoice number being posted.

This reference is used to print a range of sequence numbers on the invoice whenever it is printed with Invoice Print (7.13.3), or any other function that prints invoices. The inclusion of the range of associated sequence numbers on the printed invoice is dependent on the customer control record or Sequence Schedule Control File settings. The range prints at the end of the invoice, once all invoice lines have been printed.

When you export an invoice that is associated with sequence schedule lines, that invoice can optimally include the sequence information associated with it. The inclusion of sequence information is dependent on the customer control record or Sequence Schedule Control File settings.

See *User Guide Volume 7: Release Management.*

Use Invoice Export (35.8) to export invoices with EDI, or use Invoice Export (35.21.4.3) when using EDI ECommerce.

Fig. 21.14 Sequence Number Range Printed on an Invoice

```
Item Number       UM    Shipped Backorder Tax           Price        Ext Price
----------------- -- ---------- ---------- --- --------------- ----------------
item x             EA       10.0        0.0 no           100.00         1,000.00
  Item x
  Purchase Order:  po101

Customer Job: job1

                                Sequence Ranges
        Customer Sequence               To
        ------------------------------ ------------------------------
        seq2                           seq2

--------------------------------------------------------------------------------
```

The following programs also print a range of sequence numbers on the invoice based on the customer control record or Sequence Schedule Control File settings.

- Closed Invoice Reprint (7.13.12)
- Pre-Shipper/Shipper Confirm (7.9.5)
- Shipper Unconfirm (7.9.21)

Removing Historical Sequence Data

Use Schedule Delete/Archive (7.5.23) to selectively delete/archive inactive sequence schedules and any associated inactive detail and cross-reference records. Use the Sequence field to indicate whether sequence schedules that fit the selection criteria should be deleted/archived.

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